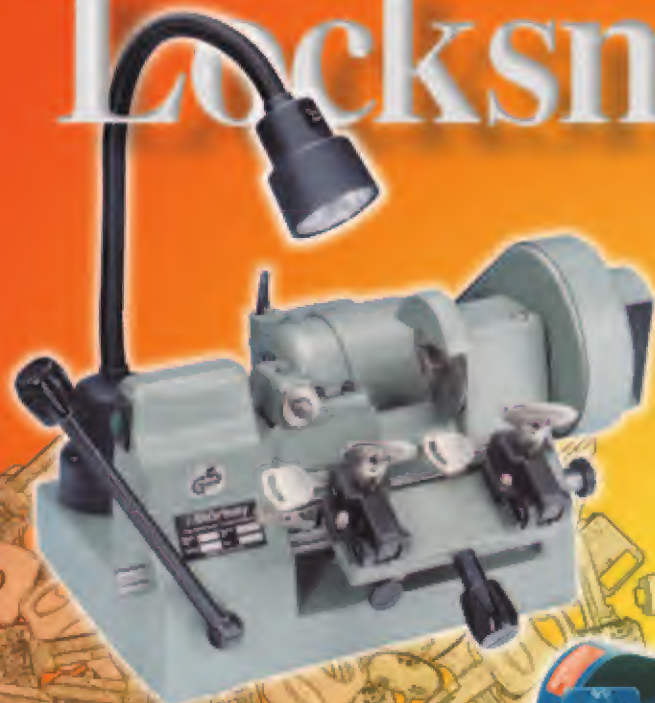


The National Locksmith.

KEY MACHINES

page 18

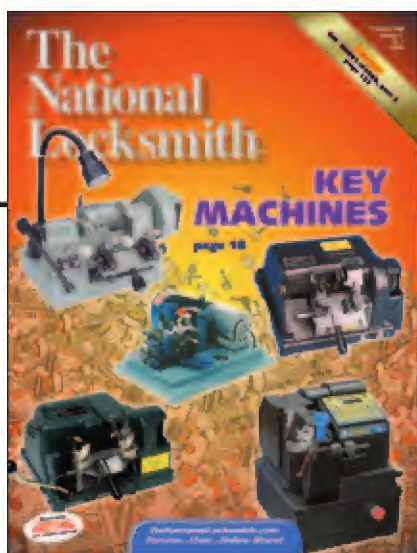


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On The Cover...



Almost the entire business of locksmithing revolves around this one piece of equipment. The most vital tool in the business... the key machine.

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The National Locksmith® ISSN #0364-3719 is published monthly by the National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. Periodicals postage paid at Bartlett, Illinois 60107 and additional mailing offices USPS 040110. Subscriptions \$41.00 per year in the USA; \$54.00 per year in Canada; \$67.00 in all other countries. Single copies \$5.00 each. Postmaster, please send change of address to National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. ©2000 by the National Publishing Company. All rights reserved. Printed in the U.S.A.



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CONTENTS

The National Locksmith February 2000 • Vol. 71, No. 2

FEATURES

COVER FEATURE! 18

Key Machines

The centerpiece of every locksmith business.

60

Dorma Overhead Door Closer

Concealment in the door or frame offers aesthetically pleasing results.

26

Getting Into Padlocks, Part 2

Examining a number of the different resettable combination padlocks.

82

1997 BMW R1100R

There are no codes anywhere on this motorcycle.

94

Quick Entry Update

2000 Cadillac DeVille DTS.

34

1999 Toyota RAV4

The RAV4 is using the now standard TR47/X217 keyway.

99

The LaGard LG Basic

A non-handed swingbolt lock.

46

The 2K Bug

This certainly is not the service friendly little Bug I used to drive.

118

Opening The Nissan Xterra 2000

A new model introduced for the year 2000.

58

Intercom Systems

Now a standard component in any good security system.

123

CODES

GM H0001-H3988, part 2.

DEPARTMENTS

5 COMMENTARY

68 THE LIGHTER SIDE

6 MANGO'S MESSAGE

74 TECHTIPS

10 LETTERS

116 BUSINESS BRIEFS

16 SECURITY CAFÉ

64 BEGINNER'S CORNER

140 TEST DRIVE

COMMENTARY



Amazing New Locksmith Software!

Remember when computers were expensive and software was cheap? Things seem to have flip flopped since then. Now you can buy a fast Pentium computer, complete with internal modem, a huge hard drive, and a printer for \$999.95.

Here at *The National Locksmith* we have about a dozen of those machines. They are faster and more powerful than ever, cheaper too. But I will tell that what we still struggle with is software. There are very few programs available which can do most everything needed to run a publishing company. The one we've found so far costs more than what most people make in a year.

Because of that, we're using a patchwork of various manual systems and programs to get the job done. It works, mind you, but it's kind of a hassle. Does this sound familiar to you as a locksmith? I am sure it does even though you run a locksmith company, not a publishing business.

But guess what. I have good news for you. *The National Locksmith* now has a total locksmith business software solution for you, and for an affordable price to boot. *Locksmith Dispatcher 2000 Enterprise Edition* is the name of this software and here is what it will do for you:

Automate your dispatching functions, booking all your appointments, juggling all your schedules for one locksmith, or for a hundred. Warn you of calls coming up within an hour, and alert you to calls for which you're late. Prioritize your customers and calls so that you always service the most profitable accounts. Tell you where your calls are coming from so you can tell if that yellow pages ad is working for you.

Besides all that and many other dispatching functions, the program will also handle all of your accounting needs with Point of Sale, payables, receivables, order entry, general ledger, purchase orders, payroll, inventory control, job costing, and much more.

The cost of *Locksmith Dispatcher 2000 Enterprise Edition* is about ten times less than the publishing software I wish I had. But here's even more good news. If you don't want all the accounting functions I just mentioned, you can purchase the entire dispatch module for half the cost of the full blown program.

This software came about in a funny way. The owner of a small locksmith shop in Georgia became frustrated at the lack of good, affordable locksmith business software. So he spent several years in programming school, and then wrote *Locksmith Dispatcher 2000*. The result is that this software is the only program of its type written by a locksmith, for locksmiths. That's just one of the reasons that you don't have to be a computer whiz to use it. I assure you that *Locksmith Dispatcher 2000* will quickly help you make more money every day.

If you'd like more information, check it out in the New Products section in the Online Store at *TheNationalLocksmith.com*. Or you can check prices and download a fully functional demo to test out yourself for 30 days free of charge. We've set up a special web site with complete details and downloads at *DiamondSoftware Systems.com*. Check it out and be amazed!



Marc Goldberg
Publisher

Have questions? Want free technical help?
Free Locksmith Forums!

www.TheNationalLocksmith.com

February 2000 • 5

Mango's Message



What was your biggest fear for the new Millennium? Come on, you can confess. I know you had some! Everybody did, whether they will admit it or not. If nothing else, there was a fear of uncertainty. It was the innate fear of not knowing exactly what would happen at the stroke of midnight when the calendar turned from 1999 to 2000. Would the electricity still be on, toilets flush, the phone networks still communicate or planes fall out of the sky? Just what would lie ahead? What would change, and what would remain the same? The fact of the matter is, nobody knew for sure until that time came.

By far those with the greatest concerns were ones whose history, occupation, finances, records, contacts and business information was nestled in the bowels of a computer. That's the whole reason there was ever a millennium crisis alert in the first place. In just 30 short years, we went from a computerless society to a computer dependent society. Today there are few things that can create more havoc than a computer glitch.

The primary cause for a computer malfunction is a software conflict, bug, virus or compatibility problem, among others. In today's business environment, it is almost impossible to operate and be competitive without a computer to compile, organize and distribute information. When such a software package is the backbone of your entire business and it decides to go south, it can conceivably cripple the entire operation. Such is the case for many who purchased a software package called "Lock-Pro Plus" by Zero-Base Systems, Inc in Nevada.

According to the manufacturer, Lock-Pro Plus is a full featured Point-of-Sale (POS) program designed especially to solve the unique requirements of a locksmith business. That's what it was designed to do. Unfortunately, according to the end users, it caused more problems that it solved.

I had no luck contacting Zero-Base Systems, Inc. so I went to their web site at: www.zerobase.net to gather what information I could about this company and software package. The Lock-Pro Plus features include:

Point-of-Sale Module — Point-of-Sale is the foundation of the Lock-Pro Plus integrated sales system. When you sell an item or service all other tracking and control functions are updated automatically. You have instantaneous inventory balance adjustment and accounting balance update. Lock-Pro Plus immediately adjusts all aspects of the business database. Inventory on hand is reduced, profit is calculated, inventory replenishment data is generated, accounts receivable data is generated and sales data is generated.

Zero-Base Zero Satisfaction

Dispatch Module — Lock-Pro Plus has an integrated system which records calls for service, dispatching of vehicles, scheduling future calls recording completion of field service, and completion of billing/sales data.

Inventory Module — Lock-Pro Plus totally integrates inventory management, pricing, receiving, part location, and sales. Additionally, the report generator shows parts costs, markup percentages, profit margin, and number of units sold by month. You will have immediate access to all inventory quantities on hand and quantity back ordered.

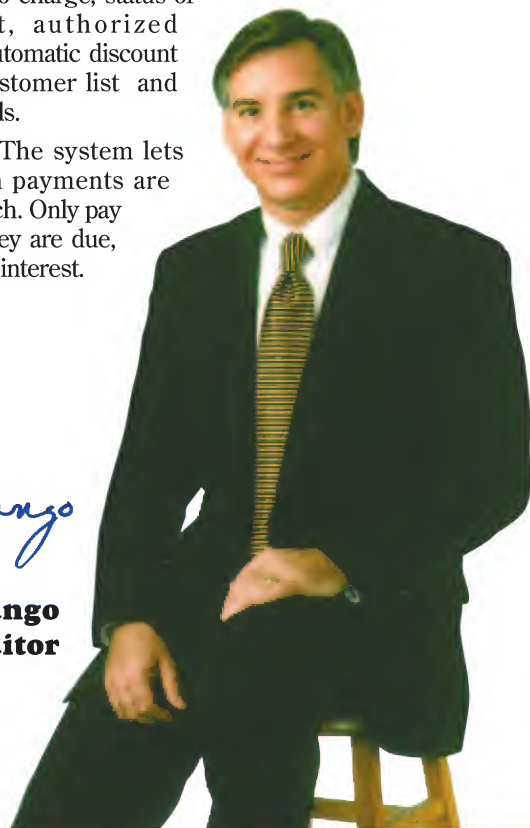
Bar Codes — Although many manufacturers are beginning to bar code their products, the locksmith industry is behind the curve for the most part. Lock-Pro Plus meets this deficiency by giving you a built-in bar coding capability.

Accounting Module — With Lock-Pro Plus you have control of Accounts Receivable and Accounts Payable. As you make sales and purchases the system tracks what, who, when, and how much.

Customers — The Customer Maintenance screen is where you set up all of your customer data. Who is allowed to charge, status of their account, authorized signatures, set automatic discount rates, print a customer list and print mailing labels.

Vendors — The system lets you know when payments are due and how much. Only pay invoices when they are due, keep the accrued interest.

Greg Mango
Editor





Continued from page 6

Vehicle Module — Lock-Pro Plus tracks the maintenance data and helps you evaluate lease versus loan and overall cost of operating. Data is tracked through time and through mileage to make sure nothing drops through the cracks.

Employee Module — Remember when every employee started, when they are due for vacation, when their driver's license expires and what their last employee evaluation said. The Employee Module simplifies the tracking of data about your employees and it does it securely.

Sounds pretty impressive, right? That's a very powerful software package that is controlling nearly every business aspect. You can only imagine what chaos would be caused when this software package fails to perform.



Along with the software, Zero-Base Systems also supplied hardware if needed. Computers, scanners, printers, hand held scanners and electronic cash drawers were made available.



Zero-Base Systems is marketing its software primarily to locksmiths in the western portion of the United States. I spoke with several who invested in the Lock-Pro Plus system and every one has had serious problems with Zero-Base not supporting its product and failing to supply all equipment required. The software itself repeatedly crashed, or did not operate at all. After repeated complaints Zero-Base Systems even took one owner's computer to make operational and never returned it. They've had it for over a year.

So what do you think a software package like this would cost? Price will obviously vary depending on the number of modules, stations, scanners, printers and such that is purchased, but one individual invested \$34,176.87 in a Lock-Pro Plus software package that does not function. He has been unable to get any response from the company, gets no return phone calls, can't get his computer back and doesn't even know where the owner of Zero-Base is. When I spoke with him he almost felt lucky because he knew of someone else who has invested almost \$50,000 in the same system and is having the same problems.

While I was perusing the Zero-Base web page I went to the "Referrals" section to see who had something good to say about this product because up to this point I could find none. This is what I found:

Referrals —



**THIS PAGE IS STILL
UNDER CONSTRUCTION**

Call us toll free 800-400-4351 ext. 7575

How interesting! Every aspect of the web page was active except the referral section. I called the 800

number and I received a recorded message informing me that the number I dialed is not in service at this time or cannot be reached from my calling area.

Next I contacted the Better Business Bureau of Southern Nevada to request a reliability report on Zero-Base. I received the following:

The Better Business Bureau Reliability Report

The information contained herein has been compiled from sources deemed to be reliable and while not guaranteed, is believed to be factual and accurate. It is not intended to recommend or deprecate, and is furnished solely to assist you in exercising your own judgement.

Company Name: Zero Base
Address: 2657 Windmill Pkwy. #410
City: Henderson
State: NV **Zip code:** 89014
Phone: (800) 400-4351
Type of Business: Computer programming services
Principal Contact: Ron Hornaday
Business Start Date:

The Better Business Bureau opened its file on this company in April, 1999. Based on a Bureau investigation of this company we have been unable to ascertain that the firm has a valid business license. If a consumer does business with an unlicensed firm, they do so at their own risk. We have also determined that this address is a mail drop.

Should you be interested, we can provide you with a list of BBB member firms within this industry category.

If you should communicate with the company, please indicate to the company's representative that you received a reliability report from the Better Business Bureau.

As a matter of policy, the Better Business Bureau provides reports only, and does not endorse, recommend or disapprove of any company, product or service. Reports are subject to change as new information becomes available.

So there you have it. By reading the Better Business Bureau's reliability report, you may come away with the impression that there is little cause for concern. There doesn't appear to be any serious violations here. However, just the fact that this is an unlicensed business listed at an address that has been determined to be little more than a mail drop is enough cause for concern. This is especially true if you are investing a fair amount of money in a company's product that is sure to require future support, updates and revisions, just as any software package will.

Buyer beware, purchase your computer software with caution. Choose a source with a documented history and track record. One that has a name you trust and proven reliability. And be sure it resides and operates from the address it maintains, and then pray that company will still be there tomorrow. **TNL**

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Software Company Compromises

I was just made aware of two recent letters and/or e-mails sent to *The National Locksmith* about locksmiths who have had bad experiences with another software company that is also targeting the locksmith security industry. I sincerely hope that these stories do not scare people off because many locksmith security businesses could benefit greatly by adding a modern and comprehensive information system.

Having said that, implementing new software is not fun. I went through a software conversion while at American Security Distribution, watched one at the Schlage Lock Company, and I have been through a handful while here at United Business Computers. They are traumatic and disruptive and time consuming. But if you and your software provider are committed to working together to resolve issues and problems, you will get through it and the reality is that a quality

system from a reputable vendor can make the difference between simply surviving and thriving.

The key is finding the right software company, having realistic expectations, planning and implementation process, and properly preparing your organization. An information and accounting system is one of the most critical investments a business can make. I would encourage anyone considering a business software to gather as much information as they can.

Rick Myers
E-mail

Disappointing Yankee Security Convention

Well, I went to Yankee security convention in November and was not impressed. It seems that every year it just gets worse and worse. I used to enjoy making the trip there, but the distributors there this year acted as though we were wasting their time. The only part about the whole thing I enjoyed was that I met Greg Mango at *The National Locksmith* booth. Other than that it was a waste of time. I certainly hope this convention gets back to being what it was meant to be; a place where us in the trade could meet our distributors and find new products. Even the show deals were not that great. I don't mind paying the price for a good product, but don't tell me you are going to give me a great "Show" discount and then offer me the product at the same price I have been ordering it from you in the past!

Sorry to be so negative, but I think the Yankee show has been really going down hill the last few years!

Rick
Massachusetts



Learning as We Go

Having just arrived back after attending Ledger World in Reno, I found your November issue of *The National Locksmith* waiting for me. I am writing to comment on Marc Goldberg's Commentary entitled "Fear."

You said that one has but two choices when answering a call for service work. One, to turn down the call because of fear that you lack the necessary knowledge or training or tools. Two, to take the bull by the horns, accept the call and do the best you can for your customer.

I will tell you the same thing I tell my customers. When you take your car to a shop to be repaired, do you want the mechanic who works on your car to be someone that is learning and is using your car to "practice on?" Or would you like the mechanic to be someone who has the training to do the repair right the first time?

I have over 1000 hours of in class education, having taken well over

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

100 all day classes in the 21 years that I have been a locksmith. I will not take on a job that I can not complete in a professional manor. I am not an untrained handyman.

I believe that one has two other choices when answering that request for service. One can say to the customer, "I am sorry but I am unable to do that job at this time, however I can refer you to someone who specializes in that work and may be able to help you."

It is hoped that the locksmith who you referred the customer to would in turn refer customers back

to you, knowing the type of work you specialize in. Is this any different than a doctor referring a patient to a specialist who he feels can do a better job? By giving the above answer you are not telling the customer that you are untrained or can not handle their request. By not just saying no, you give the customer the impression that you are interested in helping them with their problem even if you are unable to do the job yourself at the time.

Do you know of any locksmith who accepts a job that they are not knowledgeable about and damages

the customer's property unnecessarily or is unable to complete the job? How about a locksmith who takes three hours (and charges for three hours) to do a job that would take less than an hour if he were properly trained! Who loses? The customer?

What kind of image do we in this industry want to project? A handyman who will give it a shot, or a professional who, like the doctor, will refer work to someone who can do the job right.

It is hoped that if one finds that he or she is giving away a number of possible jobs in one area of locksmithing, that he or she will take some classes or read up so that future jobs may be accepted. No one starts off in locksmithing knowing everything. As you go along you learn more and are able to accept a wider range of jobs. I am not willing to learn at my customer's expense. If it takes me three hours to do a job that I know once completed should have taken an hour had I come prepared, I charge the customer for one hour. I do not feel that my customer should have to pay for my lack of knowledge or for not having that proper equipment to do the job.

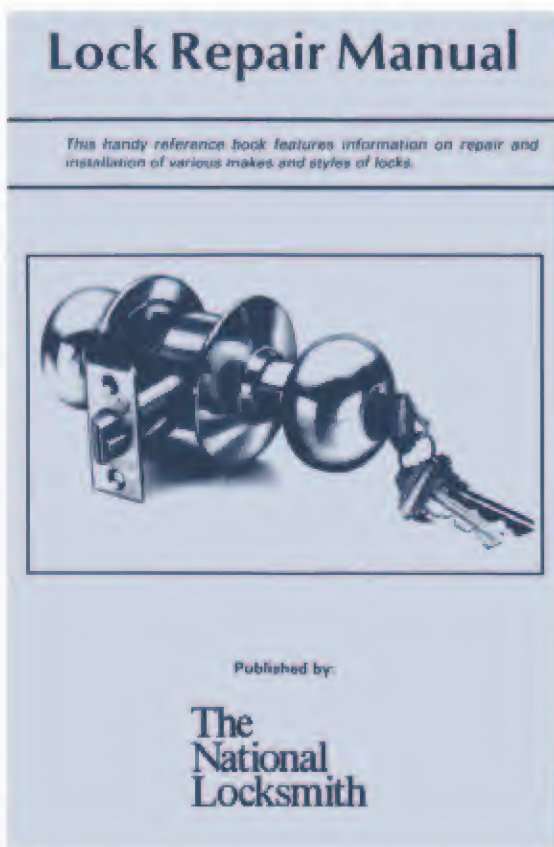
Wouldn't you feel the same way if you were the customer? Can anyone still remember the "Golden Rule"?

The fourth way to handle that service request would be to call a fellow locksmith who is knowledgeable and ask him to handle the call as you go along or meet him at the job site. The fellow locksmith would get all, or a percentage of the job and you get the education that will help you on your next call.

More than once I have had fellow locksmiths call me and ask me to do a job that they can't handle or are not knowledgeable enough to feel comfortable about doing on their own. Instead of taking the job I ask them to meet me at the job site and we do the job together. The customer gets two locksmiths for the price of one, for which they are always happy. I point out to the customer that we are trying out a new and better method or tool to do the job and that he or I is there to see the results.

I have an open invitation to other locksmiths in my area to come along on a call if there is something they

Lock Repair Manual



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#LRM - 1

would like to see done to improve their skill. The better we as individuals become, the more professional our industry as a whole becomes. If we don't want to be thought of as just key cutters or handymen, we must make ongoing education an important part of our job and not at the customers expense. The education is available from many sources and you must take advantage of it if you don't want to be the guy who shows up on "60 minutes" giving the entire profession a bad name. Seen any TV news "locksmith stings" lately?

The fear you speak of is caused by lack of confidence in ones ability to do the job right, the desire not to screw up. That fear is overcome by the knowledge that you can do the job right. You can do the job right by learning. Turning knowledge into money, isn't that what a job is all about? More knowledge leads to more money. See you in class.

*Anthony M. Harris, CML
California*

Publishers Note: You and I are not in disagreement. When I said you can either reject a job you are unfamiliar with, or use

it as a learning experience, I meant that such situations are opportunities to identify where you need to learn more. No, you shouldn't go to the job unprepared and ill informed. What I said was to reach out for the right tools and learn from each situation so that as you progress in your career, you accumulate more and more knowledge. Tools, books, software, manuals, and yes, certainly classes offer you more information, thus more skill.

Marc Goldberg, Publisher

1-800 Headache

I recently had the misguided idea of increasing my business. My idea was to work for a while on weekends for one of those companies that advertises "Locksmithing Services" over a large area (like several states). I called them because I went on a job and the customer said they had been waiting for 5-hours on this company to send someone out. They were told more than once that someone was on their way. I figured this company was short handed and would be a good opportunity to pick-up some extra income.

I met with the company representatives in their Northeast Pennsylvania office and went to work the very next weekend. What a nightmare! The company was very disorganized and very arrogant. I was sent on several bad calls with no one at the job location (probably left because of the time they had been waiting). After a customer is left waiting for 3, 4 even 5 hours, they more than likely will leave. If they haven't left they are steaming mad at you because this company said you'd be there at 2:00 and now it's 4:30 and the customer doesn't want to hear any excuses because they are already mad and have every right to be.

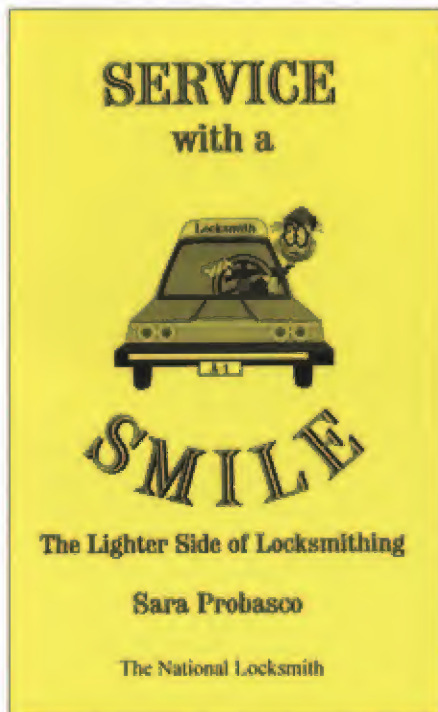
I worked a whole weekend for this company with a total of six bad calls and only two somewhat happy customers to see me. I have done mobile locksmithing for over two years and I can honestly say that these were the two worst and lowest paid days I have ever had in my locksmithing career.

Never again, is the only statement I have left to say about working for that business. If you have ever considered it, don't do it!

*Stephan Stanley
Maryland*

TNL

Service with a Smile



To tickle the funnybone
of anyone in a service
oriented business.

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TOOLS, TECHNOLOGY
& EQUIPMENT**

Prox In A Box™



Prox In A Box is the first access control system designed specifically for alarm dealers. No PC is required to install or operate the system. Prox in a Box is keypad programmable and uses an LCD keypad interface for both the user and the programmer.

The start up kit for Prox in a Box includes a 4-door controller, LCD keypad, 2 Prox readers, 25 Prox cards, transformer, enclosure and more.

Undercounter Wrench from Lockmasters

Lockmasters has found that the best tools and ideas come from the technicians in



the field. The Undercounter Wrench is designed to remove the nut, which holds the key lock on bank teller drawers. Due to the design of the drawer and the linkage, it's almost impossible to put a standard wrench on the nut.

With its two 90-degree bends, the Undercounter

Wrench will loosen the nut and remove the cylinder in minutes with ease. It will work on Diebold, Mosler and LeFebure equipment. If you are doing bank service work, don't be without this tool!

ACSI Modification for Arrow Q Series



Architectural Control Systems, Inc. Series 1500 Electric Lock Modification, is now UL Listed and California State Fire Marshall approved for the Arrow Q Cylindrical Lock. The lock is available in fail-safe or fail-secure control.

Voltages are 24V AC/DC and 12V AC/DC. The ACSI design allows electric lock/unlock while maintaining the free-wheeling or rigid locking feature of the Arrow lock.

Adrian Steel Grip-Lock Ladder Racks

Adrian Steel Company now offers improved Grip-Lock ladder racks for full size and mini vans. The improvements will allow many styles and lengths of ladders to be transported on the same rack in different combinations.

A new 7-foot span between cross supports improves support for multiple ladder sizes. An optional stepladder kit provides an

auxiliary support between the front and rear cross supports for shorter ladders. For longer ladders, a new extension kit adds 2 feet onto the front of the rack for additional roof protection and ladder support.

Locknetics Programmable Cabinet Locks

Locknetics Security Engineering has introduced the 443BP battery-powered, programmable cabinet locking system. It is a battery-powered version of the Locknetics 442S hardwired cabinet lock.



Four, common AA batteries provide 80,000 activation's, or about three years' life. With a CM controller, the cabinet lock can easily be programmed for up to 150 user codes and/or TouchEntry(data keys, with an optional audit trail of the last 100 events.

A portable computer can be used to program and retrieve the optional audit trail from locks equipped with a CM Series controller. The Pro Series controller accommodates up to 20 users with 3 to 7 digit PIN codes. Programming of cabinet locks equipped with a Pro Series controller is direct through the keypad.

Club Buster

Club Buster is an automotive steering wheel lock buster. This tool allows you to "bust off" The Club(and other steering wheel lock devices in 60 seconds or less.



Winchester Safes Benefit Ducks Unlimited

Meilink Safe Company, manufacturer of Winchester safes, announces the arrival of special edition Ducks Unlimited gun safes. A portion of the proceeds from the sale of these safes goes to Ducks Unlimited, Inc., an organization dedicated to the conservation of North American wetlands through protection, restoration and management.

All Ducks Unlimited safes feature a Ducks Unlimited logo on the dial and image on the front, plus an embroidered Ducks Unlimited shield on the inside door panel. They are available in three models, three sizes each, with a number of interior choices available for each model.



SECURITY CAFÉ

The Club Buster is made of 8 pounds of solid cast iron. This unique tool consists of a custom shaped bow, large hook, bronze bushing and a wing nut that provides leverage and support. Simply attach the tool snugly onto The Club(and begin twisting the wing nut. Within 60 seconds, the locked bar will bend and snap in half. It does not touch the steering wheel, steering column, or come near the airbag.

Club Buster requires no power to operate and is backed with a satisfaction guaranteed policy

Jet Introduces NGS-1 & ETD-NGS-1S



Ford Transponder keys for the 2000 models and for all prior years, can now be made without an original key. The NGS-1 plugs into the vehicle and will create a new key. Five free Ford H72-PHT Transponder keys are included with the NGS-1, and is now available from Jet distributors. Registered users of the Jet NGS-1 will have toll-free technical support, 7 days a week, including holidays.

The new ETD-NGS-1S is a Jet exclusive combo package for all Ford automobiles and other cars equipped with Transponder programmable keys. The ETD-NGS-1S comes with 10 Ford and 5 of the most

popular programmable Transponder keys. When purchased separately, either the ETD-1S or NGS-1 comes with 5 keys each.

SDC Retrofit HiTower™ Unit Locks

The new SDC ZA7300 HiTower is an electrically operated, ANSI/BHMA Grade 1 extra heavy-duty unit lock, designed to retrofit existing installations with



Corbin/Russwin, Yale and Falcon mechanical unit locks. The SDC ZA7300 HiTower installs easily with minimal rework to the door.

The SDC HiTower fail safe design combines life safety and security for access control of fire doors. Features include a 4" square rose to cover existing mounting holes, vandal resistant pressure release lever, lever power return spring, choice of lever style and low current draw. The SDC ZA7300 may be ordered with another manufacturers keyway, or prepared to accept another manufacturers standard key cylinder or interchangeable core.

The Car Openers New Determinators

The Car Openers recently introduced two new Determinators. The Toyota TR47 and the BMW. The Toyota TR47 Determinator works on the X217 (TR47) key blanks covering most of the Toyota's form 1992 to present. You can originate a key in about 10 minutes without having to disassemble a lock. Locksmiths can even use it



as a car opening method for the hard to open vehicles like the Camry and Avalon.

The BMW Determinator works on the X59 (BMW2) and the X144 (BMW3) keyways. No longer will locksmiths turn these calls away. In a quick, simple and reliable way the key can be made.

LanTurn Productions LLC Lock & Surface Saver

LanTurn Productions LLC has introduced a new and useful product called the

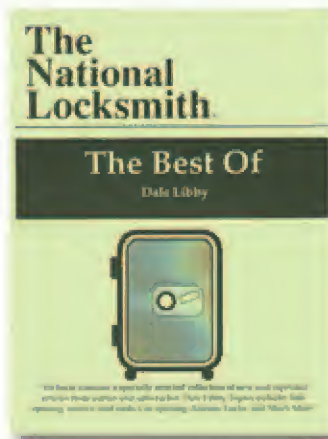
Lock & Surface Saver(. The Lock & Surface Saver is a patented, protective covering that fits

snugly over the body of more than 40 different models of the popular Master(r) padlocks. This includes most keyed padlocks and the 1500 series. 18 colors are available.

The Lock & Surface Saver offers protection to both locks and surfaces that the lock comes into contact with. The covers are surprisingly easy to install. They are simply slid over the lock body until it snaps into place. This product is 100% made in the U.S.A. **TNL**



The Best of Dale Libby



This book includes the best articles written by Dale Libby over the course of many years, going back well over ten years! Now you can have this terrific collection of safe opening articles, automotive articles, and more.

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#DALE



KEY MACHINES

As any locksmith knows, a workhorse of a key machine is worth its weight in gold. It is the centerpiece of almost every locksmith business and a purchase that should be taken seriously. If you are a smart purchaser, the price of a key machine should rank almost last in terms of importance. Key machine purchases should not be based on price alone. Every machine available has its own unique features, attributes and undesirable characteristics. All of which will be different for every person. Every key machine has a specific purpose in terms of cutting ability, which will vary as well.

If you are in the market for a new duplicating or code cutting machine, take your time, do your homework and compare. It will be one of the most important purchases you will make.

BORKEY REXA MACHINE

1999 saw the 25th Anniversary of the first Rexa machine sold in the U.S. by DiMark International, Inc. The next year more than 40 Rexa machines were sold and many of those machines are still in daily use in lock shops across the U.S. Parts are still available for those early machines and though there have been a few design changes, the basic design of these machines has not changed. Why mess with success?

Maintenance is a breeze and calibrations hold fast through the heaviest use. Buy a good piece of equipment and you will enjoy using it for many years. The jaws are machined to the highest specifications, allowing firm gripping of the meanest keys. The cutters are precision ground from high-quality M3 steel for extended life. The cutters easily cut both brass and steel keys in a fraction of the time required by automatic machines.

Semi-automatic machines like the Rexa offer more speed and reliability than a straight automatic or any manual

machine. Cutting five keys or five hundred, this Borkey machine will outperform other machines and cost you less per key in the long run. To put it simply, just ask the man or woman who owns one. Rexa users are DiMark's best salesmen.

Net wt: 66 lbs.

Motor: 110v - approx. 1670 rpm

HSS Prismatic Cutter

Cutter Speed: approx. 980 rpm

Overall Machine Size: 17" wide (including handle) x 16" deep x 12" high

Circle #291 on the Rapid Reply Card.



CODEPRO 4500 SIGNATURE LINE

The CodePro 4500 Signature Line has more user-friendly features than any other code cutting key machine available on the market. The CodePro 4500S comes with an automatic tilting head for Medeco/Emhart and comes with free code retrieval and Windows driven master keying software. Setup for code cutting is accomplished by entering a 3-digit manufacture code or by entering a specific key blank number (i.e. H54, SC1) or by selecting the manufacture's name that is actually displayed in full on the screen or by downloading information directly from your personal computer.

Some unique features include: electronic key counter (accumulative) electronic security lock-out, the ability to store and retrieve over 3000 room keys from memory and the ability to decode previously cut keys. The CodePro 4500S will have a suggested retail selling price of \$3,999 US, weighs approximately 45 lbs. and measures 10 x 18". The CodePro 4500S does not require a computer to operate it and is fully Y2K compatible.

Circle #292 on the Rapid Reply Card.

CURTIS MODEL 5100

The 5100 Key Duplicator and Code Cutting Machine from Curtis is designed to allow an operator to originate a key by code where necessary, or duplicate an existing key when available. The machine features four-way vise jaws designed to accommodate virtually any standard automotive key as well as many double-sided automotive keys without the need for adapters.

Powered by an Emerson 1/4 hp, 1725 RPM, 115 volts/60 hertz, single-phase motor, the machine has an M-2 high speed steel cutter wheel. The unit, which has a shipping weight of 38 pounds, is rated at 4.0 amps hp max with an insulation class of B and measures 14 inches wide, 15 inches deep and 9 inches tall.

The four-way jaws on the machine include: stations suited for gripping double-sided automotive keys and is capable of gripping them in the groove or milling for enhanced performance when necessary. The standard setting is for holding single-sided automotive keys as well as most house and padlock keys and the wide position is for cutting most double-sided keys by code and for duplicating most double-sided "Ford style" keys. The "X" position is useful for duplication



of worn double-sided keys, especially those with narrow grooves or having deep cuts, allowing the keys to be gripped by their center grooves for increased gripping performance. The W/A position is similar to the "X" position, but is not recommended for automotive keys.

An application guidebook and cross-reference guide to allow cutting keys by code is included with the machine. The book covers key blank applications for all domestic and import makes and models from 1935 through 1998 which can be cut on the machine specifies which depth knob, spacing plate and key blank is required for a specific lock application. It also indicates the proper vise jaw position required to properly grip the key blank for code cutting.

The unit, which comes with a two-year warranty, has thumb-wheel dials to set for code reference, a nylon brush and non-exposed cutter wheel.

Dimensions:

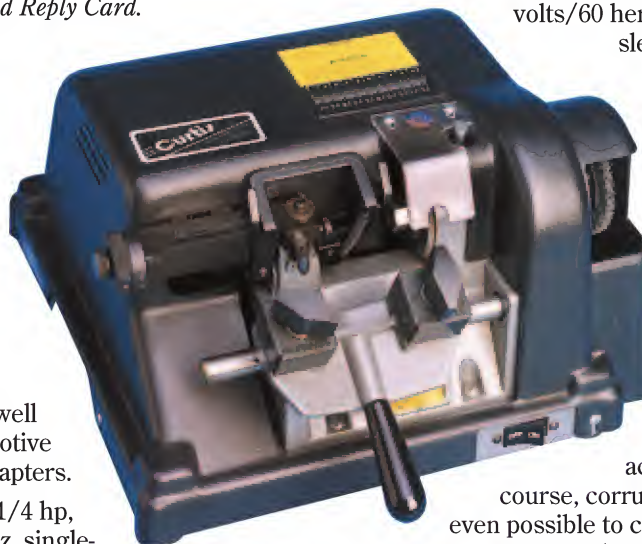
Length: 14 inches, width 15 inches, and height 9 inches.

Shipping Weight: 38 pounds.

Motor: Emerson Model, 1/4 hp, 1725 rpm, 115 volts/60 hertz, single phase, 40 amps rated HP max, sleeve bearings, insulation class: B.

Cutter Wheel: M-2 high-speed steel.

Circle #293 on the Rapid Reply Card.

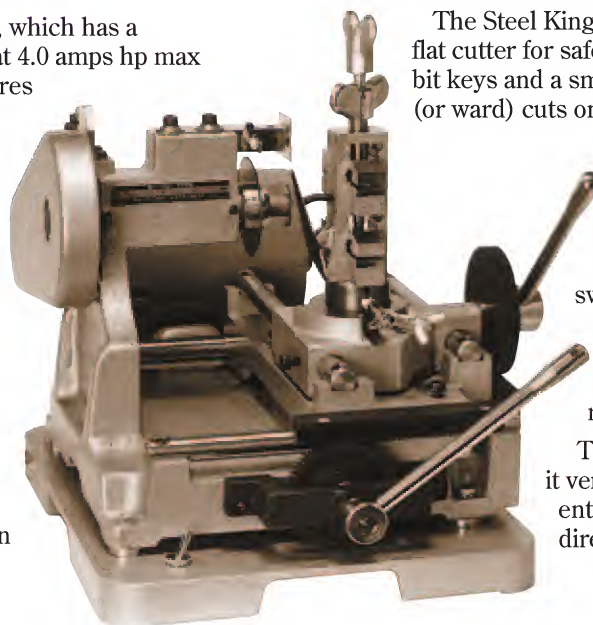


DIMARK STEEL KING

If you are looking for a quality machine to cut a variety of slotted type keys, you will be happy to know about the Steel King.

Made in Japan and marketed exclusively through DiMark International from California, this machine cuts all the cuts on bit and barrel keys. It also quickly and accurately cuts safe deposit keys. Of course, corrugated padlock keys are a cinch and it is even possible to cut the sophisticated double-bit keys that are used on some European safes.

The Steel King comes with two cutters. A large flat cutter for safe deposit keys and lever cuts on bit keys and a smaller cutter for end cuts and side (or ward) cuts on bit keys. The cutters are both approximately .040" thick.



The key vises are stacked one above the other, so there is no problem cutting very long keys. The turret vise assembly swivels 360 degrees and goes up and down. These features make it possible to duplicate all the cuts on keys without remounting the key and blank.

Two rack and pinion systems make it very simple and fast to move the entire carriage base in both directions. The carriage can also be

locked in either axis with setscrews, which are a part of the lever handle system.

The Steel King is 11" wide by 16" deep by 15" high and is delivered in the U.S. with a 110-volt motor.

Circle #294 on the Rapid Reply Card.

ESP 3000

The ESP 3000 Semi-Automatic Lever Key Machine, operates with a single lever that allows keys to be cut in one smooth motion with one hand. It is designed for long-lasting dependable accuracy for the lifetime of the machine. Just gauge the two keys with the gauge fork, secure the keys in the vises, bring the carriage up and lock it into place. Flip the switch on and bring the key across and the key is cut in one pass. The carriage automatically disengages when done and drops down for easy key removal.

The wide carriage design allows for cutting of longer and large bow keys, and the double-sided reversible jaws eliminate the need for adapters. The carriage is attached to a polished carriage shaft for less play and better lifetime accuracy. The unit operates with a 110-volt, 60 cycle AC, 1/4 horsepower motor. A 3000-12V is also available for 12-volt operation.

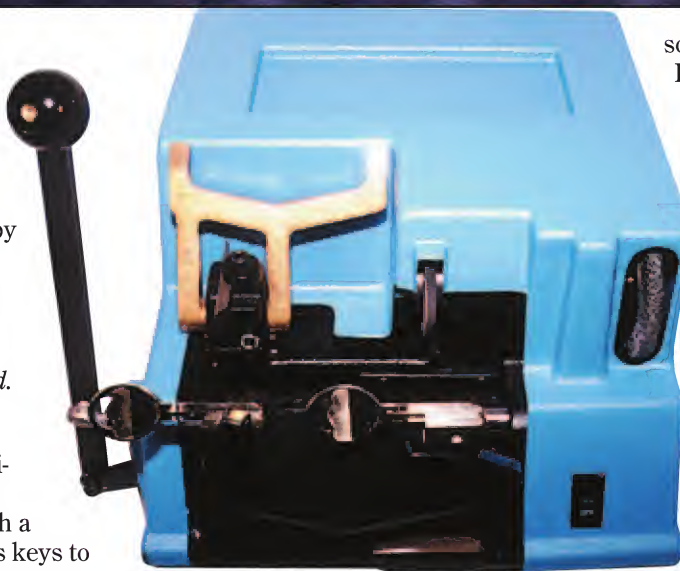
The cast bronze gauge fork on the ESP 3000 is digitally machined to a tolerance of less than .001" when gauging keys. A special black-oxide coating on the vise jaws assures locksmiths of trouble-free vise operation.

The unit measures 15" X 12", and stands 11" tall, including the lever. It comes with a 34MC tungsten steel cutter and durable nylon deburring brush. Rubber bumper feet hold the machine in place on the bench, eliminating the need to bolt it onto the bench.

The Model 3000 is one in a series of three key machines, ranging from manual to automatic, offered by ESP.
Circle #295 on the Rapid Reply Card.

FRAMON #2

Framon's #2 Code Machine has been a locksmith favorite for over 25 years. The #2 is



sold as a complete code cutting station. Four cutters, five spacing blocks, dial calipers, and Framon's Depth & Space Manual are all included at time of purchase.

Out of the box, the #2 can cut almost any cylinder key in use today. Included with the machine is everything needed to cut automotive, commercial, flat steel, and Medeco keys. The depth and space manual included with the machine provides all cutting information; over 1000 depth & space charts are included in the book.

Cutters included with the #2 are the FC8445 standard all-purpose, FC8735 foreign auto, FC8615 for Medeco, and the FFS1045 for flat steel & safe deposit box work. An instructional video is also included which demonstrates cutting procedure on the #2 and the rest of the Framon line of key machines.

The #2 is available in 110 volt AC or 12 volt DC at the same price. All aluminum and steel construction assures a machine that will hold up to daily use with little or no need for adjustment. A one-year, parts, labor and freight warranty are included with each machine. During the first year, Framon will cover all expenses including freight both ways for any machine found to be defective.

Machine Specifications:

Dimensions: 10 1/2" W x 16" D x 8" H

Weight: 33 lbs.

Motor Speed: 1700 rpm (110 V or 12 V)

Cutter Wheel Material: M-2 Steel

Circle #296 on the Rapid Reply Card.

HPC'S CODEMAX™AA

The original computerized code machine is now available with an automatic angler. Just type in the code and watch the new motor-driven swivel head automatically create high security angle cuts.

Based on the industry standard 1200 CMB machine, CodeMax was the first machine to put the power of a computer into key cutting. HPC's CodeMax AA comes complete with CodeSource code retrieval program. HPC's CodeSource has a database of over 2.5 million codes that can be



accessed quickly and easily from your Windows based PC and downloaded to your CodeMax AA.

The CodeMax AA can also operate without a computer. As a stand-alone machine, CodeMax AA has an internal computer chip that contains over 800 different depth and spacing charts. It can cut keys with up to 14 spaces and up to 14 depths. This allows it to cut virtually all standard vehicle, residential, furniture keys, as well as many high security and specialty keys. Now with the addition of the automatic angler, CodeMax AA is the natural choice for busy security professionals that demand efficiency as well as accuracy.

The easy to use reference guide makes it simple to look up the proper depth and spacing charts. After entering the appropriate information, CodeMax AA will confirm the manufacturer and inform you of the proper gauging point. It then allows you to enter the depths of your choice and angles if necessary. Once this has been done, sit back and CodeMax AA will create an original key for you in just seconds.

CodeMax AA also has a built in Micrometer function allowing you to create keys at any depth and spacing measurement. Plus, CodeMax AA allows you to adjust the "feed rate" as well as offers the option of contour (laser) cutting for automotive keys.

A new addition to all CodeMax models is a shoulder gauge safety switch. This switch ensures that your shoulder gauge is out of the way before you start cutting keys.

CodeMax AA with the automatic angler and CodeSource is the ultimate computerized key originating package for standard and high security angle keys.

Motor: 120VAC or 240 VAC (1/6 hp, 4 amps)

Cutter speed: 1700 rpms

Weight: 49 lbs./23kg

Cutters Supplied

1. Tool Steel 100° Large cylinder: #CW-14MC

2. Tool Steel 90° Small cylinder: #CW 1011

3. Tool Steel 90° Large cylinder: #CW-90MC

4. Tool Steel 76° Sargent: #CW-20FM

5. Tool Steel 87° Some Automotive: #CW-47MC

Machine Size: 12"W x 14"D x 14"H

30.5 x 35.5 x 35.5 cm

Bench Size: 20"W x 14"D

51 x 35.5cm

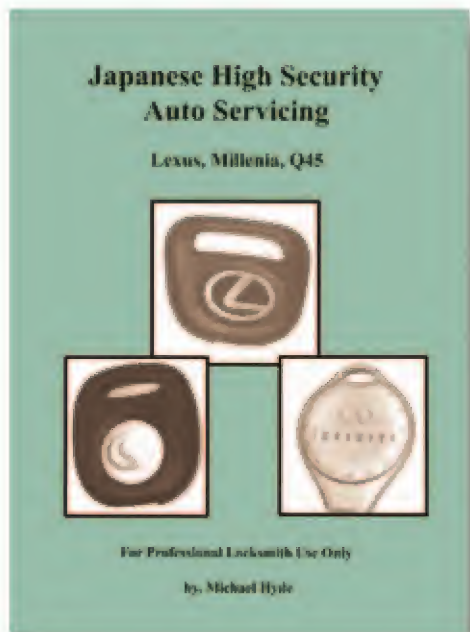
Circle #297 on the Rapid Reply Card.

ILCO-UNICAN 044 SEMI-AUTOMATIC DUPLICATOR

The 044 Semi-Automatic from Ilco-Unican is designed to bridge the gap between "traditional" mid-priced key machine models and the more expensive high-end products available today. One of the new "Performance Series" models offered by Ilco-Unican, the 044 is a definite step up in terms of styling and performance, yet remains an economical key cutting solution for today's locksmith.

The 044 offers the following performance features:

- Semi-Automatic operation; fast, efficient and accurate.
- Wide spacing between vise jaws to accommodate new, longer key types.
- Dial type depth adjustment system greatly simplifies machine calibration.



Japanese High Security

Some of the most profitable cars are also the trickiest to work on.

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#JAP - 1



- Four position vise jaws grip most automotive and commercial keys without adapters.
- Carriage is spring loaded; provides consistent cutting pressure, reduces potential for miscuts.
- Ideal for mobile use; operates with most inverters and generators 500 watts or higher.

Circle #298 on the Rapid Reply Card.

INTRALOCK ITL 9000

With a constant view towards market requirements and equipment upgrades, Intralock Tools Ltd. is introducing the lowest cost autoswing cutting head in the industry. It will be installed on the ITL 9000 model key machine. A new 9.1 code version, for all models of our computerized key machines, is available with some 50 additions and revisions to facilitate new domestic and foreign auto keys plus bittings



for additional paracentric and safety deposit keys. There are now a number of specialty inserts in production for double sided, restricted and safe deposit keys. This will greatly enhance your efficiency and accuracy when servicing these locks.

Leading the key cutting industry into the new century is our aim, with many new products and innovations in the works.

Weight: 62 lbs.

Motor: 1/4 hp 2750 rpm

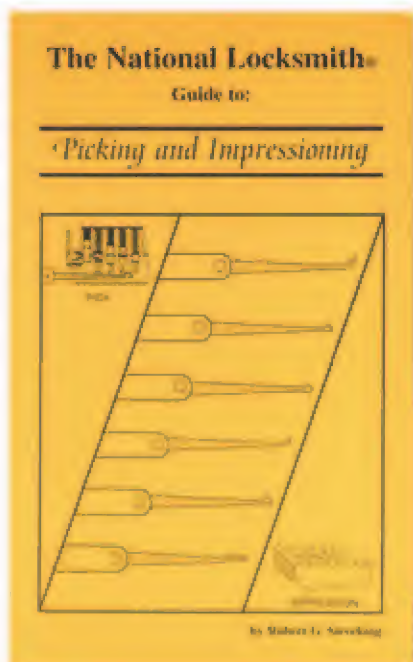
Cutter Wheel: 36 tooth CW 1012 M42HSS or Carbide

Cutter Speed: 1600 rpm

Overall Machine Size: 14.5"W x 19"D x 12"H

Circle #299 on the Rapid Reply Card.

TNL



Picking & Impressioning

Here is the most complete book ever published on picking and impressioning locks! You will have everything you need to know about how to open almost every kind of lock that can be picked.

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#PI



by Sal Dulcamaro

GETTING INTO COMBINATION PADLOCKS

PART TWO

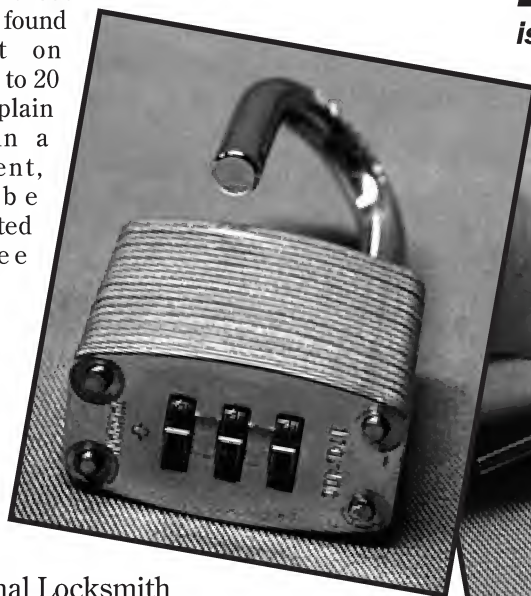
Most locksmiths spend a small fraction of their time working on combination padlocks. As such, we don't usually pay a great deal of attention to what's inside of them. The low cost of many of these locks seems to justify our general ignorance and the typical response to a locked up padlock is a pair of bolt cutters. Spending an hour on a \$10 lock doesn't make business sense. It is usually more profitable to cut off the lock and sell a new replacement lock.

I spent more time than I anticipated researching this series of articles. My premise was to delve inside and out, and not accept conventional wisdom as to what could or couldn't be done with these types of locks. Over the course of this article series, some readers may find practical methods and procedures that may justify giving certain padlocks a second look rather than tossing them in the trash. I was amazed at some of the things I discovered.

The Sesamee from CCL (Corbin Cabinet Lock) has been one of the trickiest resettable combination padlocks. I've not really seen any simple or entirely practical procedures (in print) on how to deal with the Sesamee when the combination was unknown. In the process of researching these articles, I've discovered a technique whereby I can consistently decode and open a Sesamee padlock in less than 30 seconds, without any tools. In fact, I found myself doing it on average in about 15 to 20 seconds. I will explain that technique in a future installment, which will be specifically dedicated to the Sesamee padlock.

1.

A small Abus resettable combination padlock.



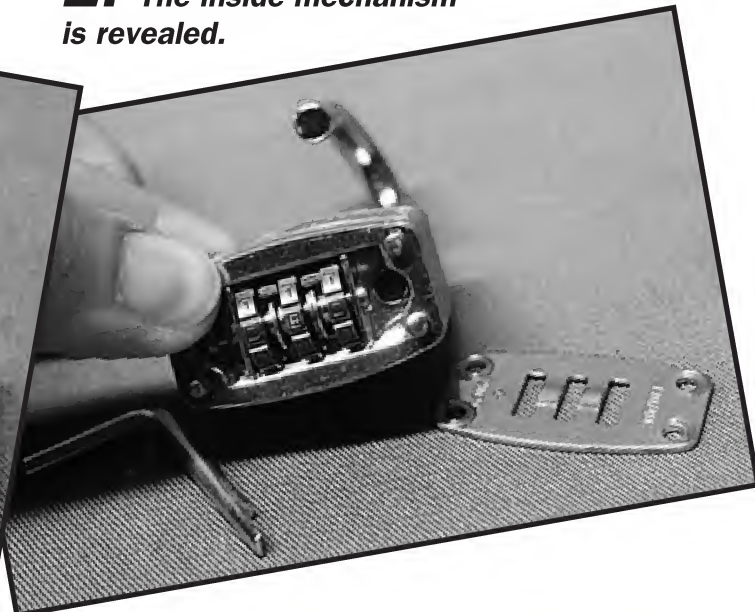
Here in part 2, I will go into more specific detail for a number of the different resettable combination padlocks with 3 or 4 individually numbered wheels. I will cover some combination changing, general concepts of decoding and an unlocking technique that works on a variety of locks of this type (of various brands).

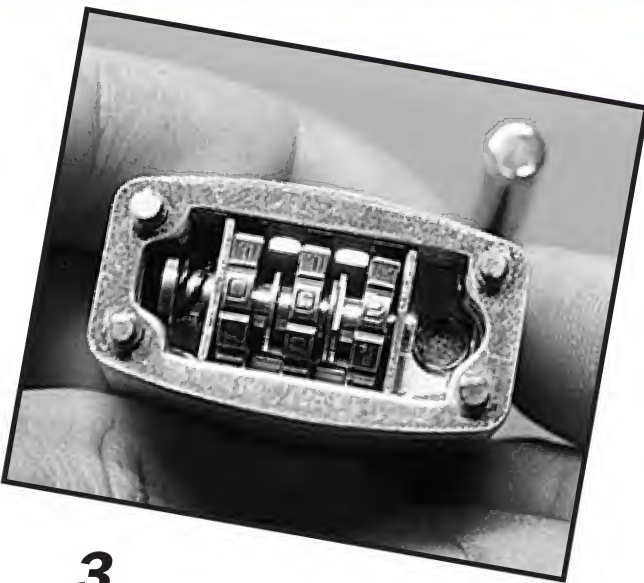
Resetting a Combination:

Photograph 1, shows a small Abus resettable combination padlock that uses a 3-digit combination. It is set to the factory default combination of 0-0-0. You will find that virtually all locks of this general type will be factory set with a combination of all zeroes. It is then up the lock owner to choose his/her own combination and set it with the included tool.

To be able to show inside the lock, I used a hollow mill drill to drill out the wide outer diameter of the rivet's end. After carefully prying off the outer laminated plate, the inside mechanism is revealed in *photograph 2*. The combination changing tool is the L-shaped tool to the left of the lock. With the combination set to the factory code of all zeroes, you can see the legs of the locking plate just above the flats of the

2. The inside mechanism is revealed.





3.

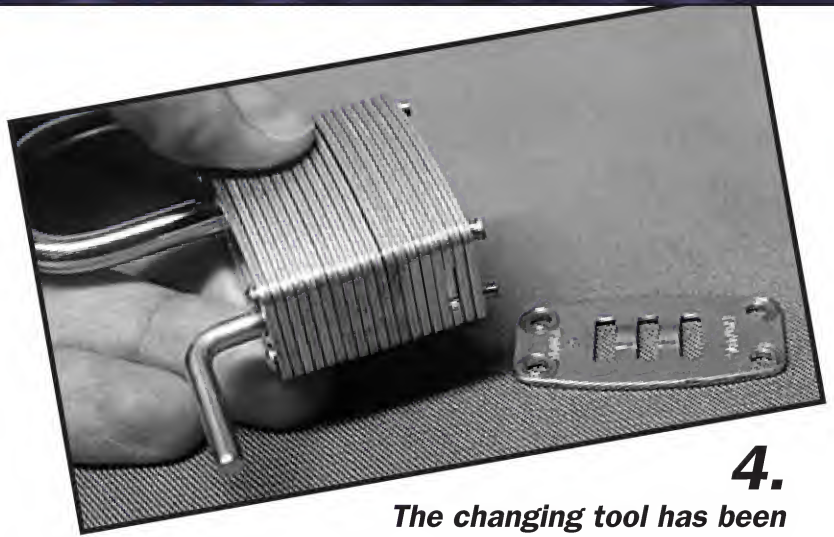
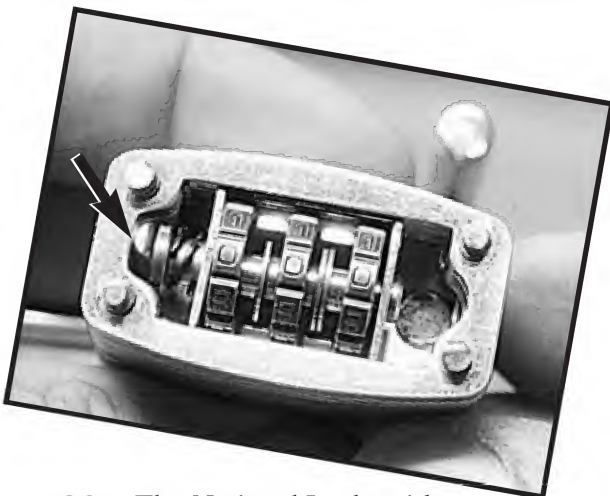
The third number of the combination moved from the factory default.

three cams. If you haven't read part 1 of this article series, you may wish to look it over first. I will make reference to certain mechanical parts and operations that may not make sense if you haven't read part 1.

Photograph 3, shows the third number of the combination moved from the factory default which will lock the combination. The flat of the cam is not facing upward. It is a good idea to set the three wheels to the currently held combination to avoid any confusion during the resetting process. With the combination reset to zeroes, the changing tool has been inserted into the shackle hole of the lock body in *photograph 4*.

The tip of the changing tool is shaped like a half circle. The flat side of the tool will not move the mechanism for combination changing, but the round side of the tool will. *Photograph 5*, shows the bottom (tip) end of the tool in contact with the left end of the spring loaded pin, which acts as an axle for the wheels and cams. The spring acts to keep the motion of the individual wheels and cams locked together. When a wheel is moved, its cam rotates along with it.

5. The tip end of the tool in contact with the left end of the spring loaded pin.



4.

The changing tool has been inserted into the shackle hole.

As the changing tool is being rotated in *photograph 6*, the tip starts to push the pin against the spring resistance. When the tool has been rotated a full half turn, in *photograph 7*, the round end of the tip has caused the individual wheels and cams to separate from each other. The next step would be to rotate each of the three wheels to the new chosen combination. Each wheel can be moved to any spot from 1 to 9, and the cams will not follow. Remember that the cams cause this type of padlock to be locked or unlocked.

When the numbered wheels are repositioned, it only changes what number faces outward when the flat of the cam faces upward toward the surface of the legs of the locking plate. Once the new three number combination has been selected, the changing tool should be rotated back a half turn so that the flat end of the tip is again in contact with the pin. The spring at the head of the pin will move the pin (axle) back to the left where the wheels and cams will reengage.

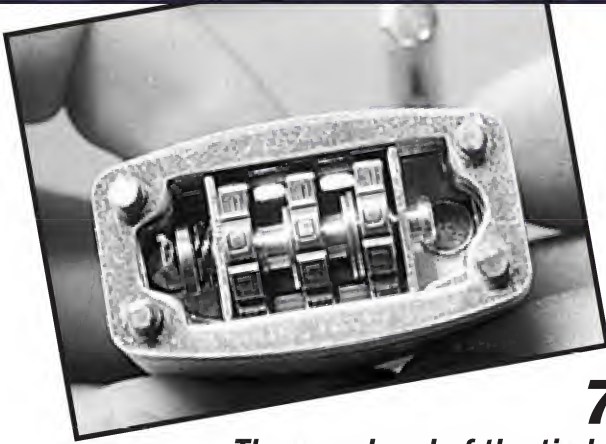
When moving the wheels now, the cams will follow along. After removing the changing tool, the newly set combination will be able to open the padlock.

Decoding the Combination:

We have determined that the location of the flat spots on the cams is the key to finding the lock's combination. Based on that principle, if we find the flat spots on the cams, we should be able to determine the correct combination to open the lock. Before we even worry about where on the cam that the flat spot is located, we will need to either know or

6. The changing tool is rotated and the tip starts to push the pin.





7.

The round end of the tip has caused the individual wheels and cams to separate.



8.

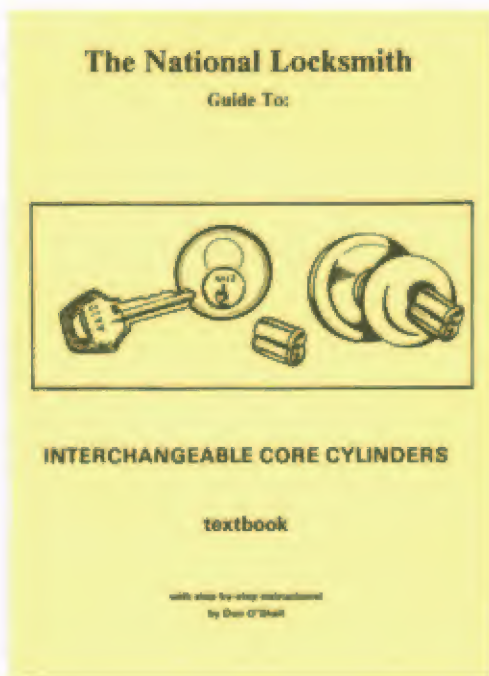
The disembodied mechanism of a Master resettable padlock.

discover where each of the cams is located. One method to find the cams and then locate the position of the flat spots, involves drilling some viewing holes into the padlock. Although not always practical, it is often effective. It leaves a patch job to be done, however, if the lock is to be used again.

Photograph 8, shows the disembodied mechanism of a Master resettable padlock. It is the same one I used to describe the basic principles of operation in part 1. Below it is the outer plate normally found at the bottom of the padlock and surrounding the rotating wheels that work the combination. You will notice five holes drilled in it just to each side of the four openings through which the faces of the wheels fit. With only four wheels to operate the combination, there should be no more than four cams. If you

knew the locations of the cams, you would only need to drill four holes. If not, you might have to drill an additional hole because you might not be certain whether the cams were located to the left or right of the wheels.

With this Master padlock we can see that each cam is just to the right of each numbered wheel. If we had to decode this lock, we would use the holes to the right of each wheel. There are a few ways you can go about finding the flat spots. If the holes were large enough (and your eyesight adequate), you could look into the holes as you rotated the wheels one number at a time. Your viewing position would likely make the flats visible when they were facing toward the bottom of the padlock. Since the flat spots must face the locking plate to unlock, you would need to transpose numbers.



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- Best/Falcon/Arrow/Eagle/(A2)
- Best A3
- Best A4
- Corbin X Removable Core
- Corbin Z Removable Core
- Russwin Removable Core
- Emhart System 70 Removable Core
- Sargent Removable Core
- Schlage, Yale, Lockwood
- Medeco Removable Core

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#ICB - 1

February 2000 • 29



9.
**The bottom
of a
Sesamee
padlock.**

You might try subtracting 3 or 4 from the number facing outward when the flat spot is also facing outward. If the wheels were set to 8-5-7-4 when you identified the flats, you could try the combination 5-2-4-1. If that didn't work, you might shift the numbers to 4-1-3-0, and try again. Don't expect the flat spots to be exactly parallel to the bottom surface of the padlock when on an exact number position. They might angle slightly up or down.

If your eyesight leaves something to be desired, you might use a wire or some other tool to insert into the holes and act as a probe to feel the flat spot. You will probably still have to transpose the numbers in order to determine the correct combination.

Photograph 9, shows the bottom of a Sesamee padlock with two viewing holes. One is between the first and second numbers and the other is between the third and fourth numbers. This lock has two sets of two cams up against each other. You will need to identify the flat on the left cam for the wheel to the left and the same for the cam and wheel to the right. This is not unlike the example in photograph 2. You can see the cam between the first and second numbers works with the first wheel, while the two cams between the second and third numbers go with the wheels closest to them.

Unlocking the Lock:

There are probably many ways to unlock the various brands of these types of resettable combination padlocks when no combination is known. I will show one particular method that I have found to be effective on a variety of different brand resettable padlocks, but not necessarily all of them. I will also show other opening methods for some of these types of locks in future installments of this series.



11.
The disembodied Master padlock.

30 • The National Locksmith



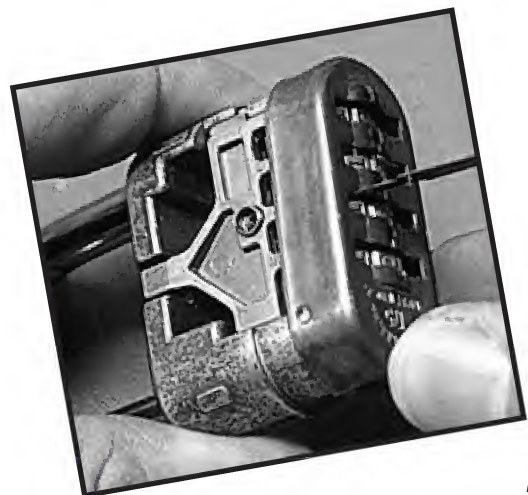
10.
A Weiser shim pick.

Photograph 10, shows a Weiser shim pick. I'm not sure how many locksmiths are aware of this particular tool or what it does. Its original purpose was for removing lock cylinders from certain types of Weiser knob locks without having to remove the lock from the door first. I won't explain how that is accomplished here, but I will say that I have found a number of useful tasks for my collection of Weiser shim picks for other than what they were intended. One of them is to unlock these types of padlocks.

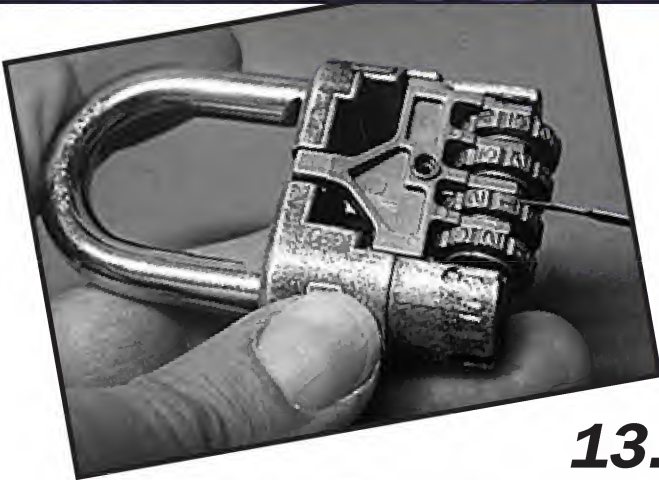
The tool is basically a very thin piece of spring steel about ten thousandths of an inch thick. Its important characteristics are that it is thin enough to get into some very tight spaces while still being rigid and strong enough to apply force with its blades. The left side of this tool has been modified, but I'll explain that a bit later.

In *photograph 11*, we return to the disembodied Master padlock. Under normal circumstances, the narrow top end of the locking plate sets between two spring-loaded catches that grab and hold the shackle from opening. When the correct combination is entered, the flat spots on all the cams face the legs of the locking plate. The motion of pushing in on the shackle allows the catches to separate enough to release the narrow end of the locking plate from their firm grip. A spring on the locking plate will pull the locking plate downward toward the surfaces of the cams.

If the round spots of the cams were up (wrong combination) they wouldn't allow the locking plate to drop any further, and the shackle would not release. When all the flats are facing up, the legs of the locking plate can tip downward. That causes the narrow top end of the locking plate to move slightly upward which clears the path of the catches, and releases (unlocks) the shackle.



12.
**The tool must be slid inward far
enough to engage the locking plate.**



13.

An unobstructed view of the tool lifting up the locking plate.



14.

The tool repeating the same movement.

Another method of opening the lock is to manually move the narrow end of the locking plate upward, without entering the correct combination first. Looking back at *photograph 11*, you can see the Weiser shim pick sliding in next to one of the wheels. *Photograph 12*, shows how the tool would enter if the lock was intact. It slides in the tiny gap next to the wheel. The tool must be slid inward far enough to engage the locking plate. An unobstructed view of the tool lifting up the locking plate is shown in *photograph 13*. You can see the tool repeating the same movement, in *photograph 14*, through the gap next to the wheel.

Although the spring steel is fairly stiff, it cannot overcome the force of the springs that allow the catches to hold onto the narrow top end of the locking plate. You must push in on

the shackle, which relieves that pressure, while lifting up on the locking plate with the Weiser shim pick. Do not use excessive force or you might end up breaking off the blade of the tool.

Photograph 15, shows the same procedure being attempted on a Sesamee padlock. The tool is carefully slid into the opening next to the wheel. Although not apparent in *photograph 16*, I am pushing the shackle inward as I am feeling for the locking plate and lifting upward. In a matter of seconds, the lock is open in *photograph 17*.

Earlier I mentioned the modified end of the Weiser shim pick. *Photograph 18*, shows why I had to make that modification. This is the Abus lock I showed at the beginning of this article. I discovered that with the padlock's



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#TNL - CD1



15.
The tool is carefully slid into the opening next to the wheel.



16.
I am pushing the shackle inward as I am feeling for the locking plate and lifting upward.



17.
In a matter of seconds the lock is open.



18.
That with the padlock's smaller size came a smaller opening to slide the tool.



19.
I angled the tip to unlock the padlock.

smaller size came a smaller opening to slide the tool under the locking plate. The width of the blade of the unmodified Weiser shim pick is about one hundred thousandths of an inch. I was unable to fit it under the locking plate, so I ground it down to about seventy thousandths of an inch in width. That allowed it to fit in better, but also reduced its strength. I had to be a bit more careful to avoid breaking it. I also angled the tip, as can be seen in *photograph 19*.

This time, I inserted the tool to the right of the second number, and pushed it in very carefully. When I could feel that the blade was under the locking plate in *photograph 20*, I pushed in on the shackle to relieve the pressure and carefully lifted upward. The lock opened, but it was a bit touchier. The shackle had to be just in the right place to



20.
The lock opened, but it was a bit touchier.

release the locking plate.

You will find that the basic unlocking procedure will work on many different brands of this type of lock. There will be subtle differences in technique for many of them. One of the biggest obstacles will be sliding the tool into the gap in the first place. I had half a dozen different Sesamee padlocks and some had much tighter gaps than others did. For some I had to enter next to different wheels where I could find more space. You will probably run into a few locks that are just too tight to insert the tool at all.

TNL

The 1999 Toyota RAV4



by
Michael Hyde



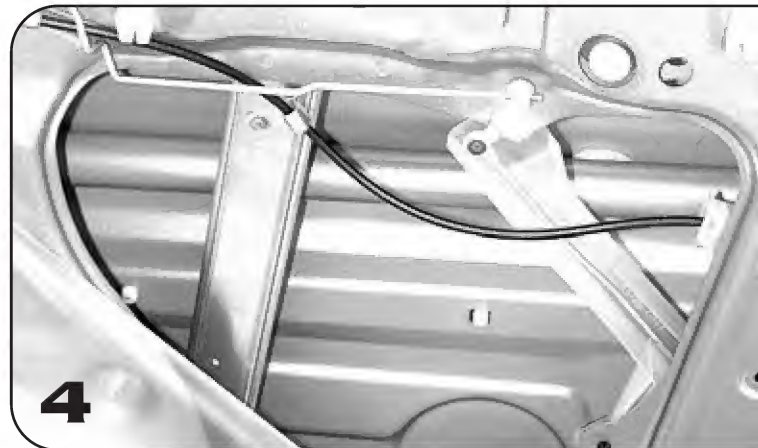
1

The 1999 Toyota RAV4 is considered a sport utility vehicle. It's a nice vehicle, but I would consider it more like a car with a suspension problem. I don't think many people buy it for off-road use. The RAV4 is using the now standard TR47/X217 keyway.

Vehicle Opening



We found the easiest way for us to open this vehicle was to use a "under the window" tool along with a couple of good wedges.



The inside linkage rod is heavily shielded.



Here is a view of the tool moving the inside locking button.

Ignition Lock



The good thing about Toyota ignitions is that they use an active retainer system. You must remove the plastic column shroud to have access to the retainer.



6 The bottom of the shroud has a single Philips screw that must be removed.



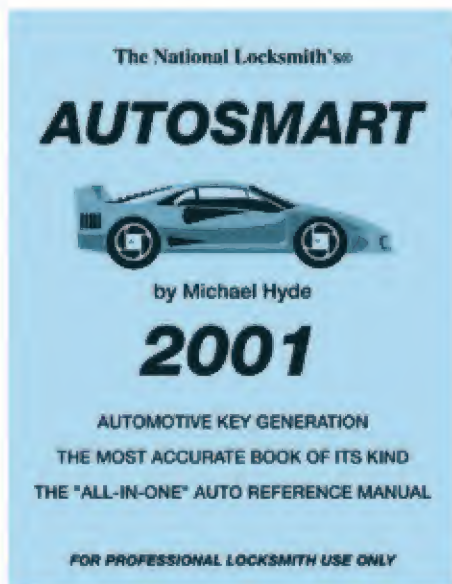
7 If you turn the wheel, on the right side of the column you can get access to the hidden shroud screw.



8 There is also a hidden shroud screw on the left side. There is enough room to maneuver the steering wheel without having the key turned 'On'.



9 You only need to remove the bottom half of the shroud to have easy access to the ignition lock.



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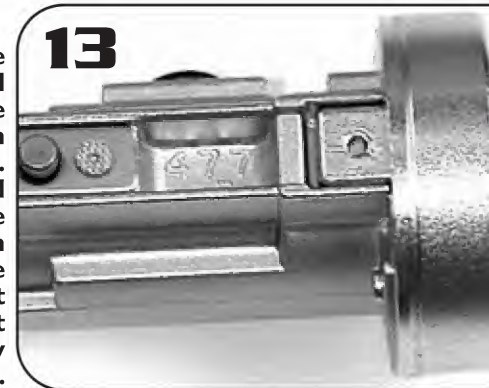
The active retainer can be found on the bottom side of the ignition lock housing.



Insert a working key and rotate it to the 'On' position. Press the active retainer to pull out the ignition lock. If you do not have a working key you can use a Dremel to cut out the retainer.



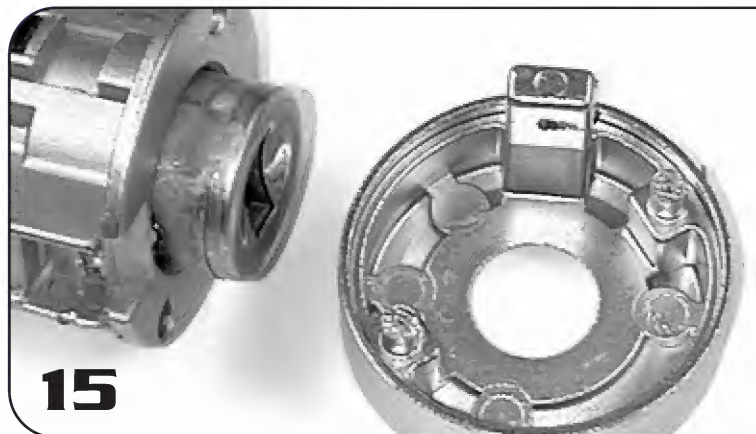
The ignition lock removed from the car. The active retainer is on the rear section of the lock.



To disassemble the lock cylinder you will need to remove the security facecap on the front of the lock. There is a single blind roll-pin on top of the cylinder. You can either drill next to the roll pin and pry it out or drill underneath it from the side and pry it out that way.



Remove the Tru-Arc ring on the back of the lock plug. The next step is to put the lock in a vise and use a pin-punch to evenly tap the posts out through the lock cylinder housing. Make sure you alternate tapping the posts, otherwise you could shear one or both off.



A view of the lock cylinder face.



The lock cylinder plug contains 8 sets of tumblers. Positions 4 and 7 have split tumblers.

17



The lock cylinder disassembled. Be careful not to lose the small black metal buzzer activator, as it can easily fall out of the plug.

Door Opening

18

The door lock cylinder is part of the outside door handle.



20

Remove the screw that holds the inside door release trim. Remove the trim.



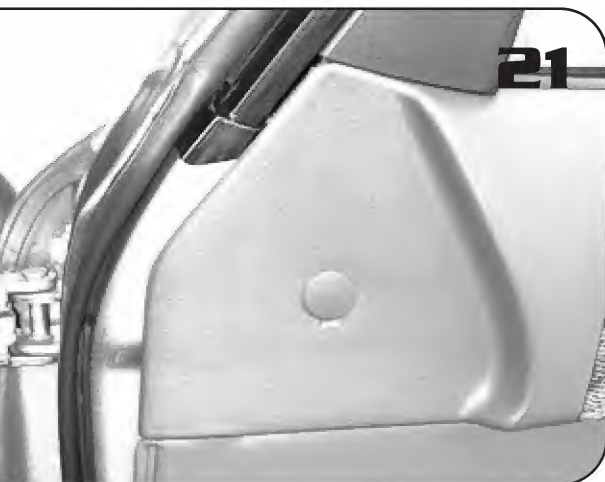
19



A view of the inside door panel that must be removed to service the lock cylinder.

21

On the upper forward section of the door is a trim cap that hides a panel screw.



22



On the rear section of the door is a door pull handle that must be removed. There are two screws holding it.

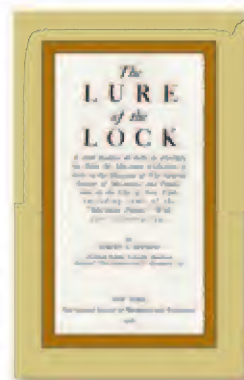
The Lure of the Lock

This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.



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#LURE





Down low on the panel is another panel screw that must be removed.



You will need to unsnap the trim cover for the outside mirror mounting bolts, this will make it easier to re-install the panel.



The door panel can now be removed. The panel uses the standard plastic snap-in clips. There are two 10mm bolts holding the outside handle assembly. Remove the two bolts. You can get to them through the access holes in the door.



You can now tilt out the handle and remove the lock cylinder or read the code stamped into the door cylinder. The code number is only stamped on the passenger side door lock.



The lock cylinder removed from the car.



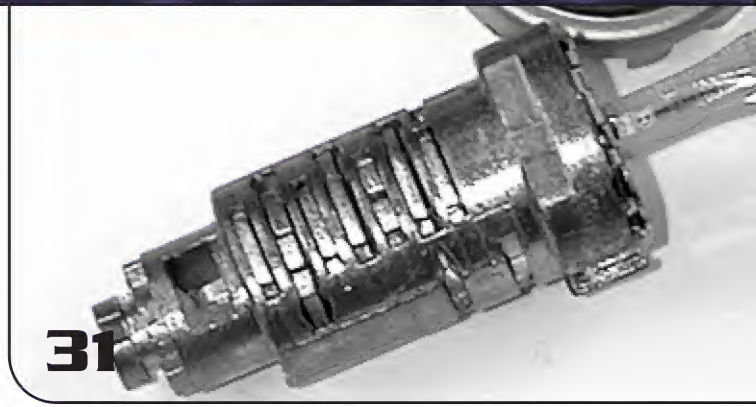
The code number is on the bottom of the lock. The code series is 10,000 to 15,000.



The face cap is reusable and there are no replacements available. Remove the tailpiece and make a note of the positioning before you remove it.



The cylinder plug is not warded and can easily be removed.



The door lock cylinder contains 7 tumbler chambers, positions 2 through 8. The cylinder plug uses split tumblers in positions 4 & 7.

Rear Hatch Lock



The RAV4 uses a tailgate that swings out from the driver's side of the vehicle. The inside door panel must be removed to service the lock.



This model of the RAV4 had 2 canvas bags attached to the inside door panel. The bags slide off the rail that holds them up. There are several plastic clips that must be carefully removed to get the inside panel off.



A view of the panel removed.



The lock cylinder retaining bolt can be removed through the access hole with a socket wrench.



The rear tailgate lock cylinder removed from the vehicle.

36



The facecap is reusable and there are no replacements available. Remove the tailpiece and make a note of the positioning before you remove it.

37



The cylinder plug is not warded and can easily be removed. The door lock cylinder contains 7 tumbler chambers, positions 2 through 8. The cylinder plug uses split tumblers in positions 4 & 7.

38

Glove Box Lock



The glove box on this model has a locking door.

39



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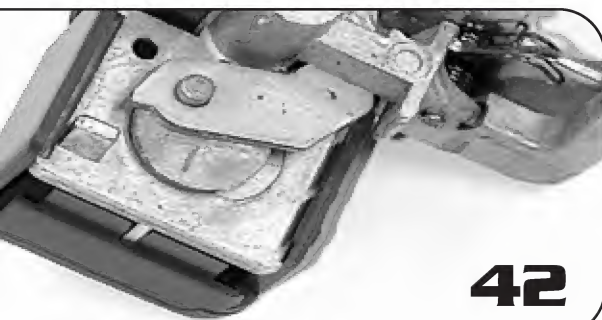
#GM - 2

February 2000 • 41



40

The lock and handle assembly is held in place by two screws on the inside of the door.



42

There is a plastic trim piece covering the cylinder plug. It unsnaps easily. Once you remove

the trim the plug will slide out when you depress the retainer wafer.



41

A view of the assembly removed from the vehicle.



43

The glove box cylinder plug contains 5 tumblers in positions 4 through 8.

Making First Key

The easiest way to make the key is to read the code on the passenger door lock. If no code is there or it is an incorrect code, disassemble the door lock to get cuts in positions 2 through 8 and progression the first cut in the ignition.

SPACE AND DEPTHS: CODE SERIES: 10000-15000

SPACING FROM TIP: Cut to Cut: .090

- 1= .885
- 2= .795
- 3= .705
- 4= .615
- 5= .525
- 6= .435
- 7= .345
- 8= .255

Key Blanks:
ILCO: X217, TR47
SILCA: TOY43

Reed Codes:
11-02-064
HPC 1200 CM
XF208

FRAMON SPACING:

- 1= .017
- 2= .107
- 3= .197
- 4= .287
- 5= .377
- 6= .467
- 7= .557
- 8= .647

Curtis Clipper:
Cam: DC-60
Carriage: TOY-60
ITL MFG: 513

Pak-A-Punch:
PAK-TI

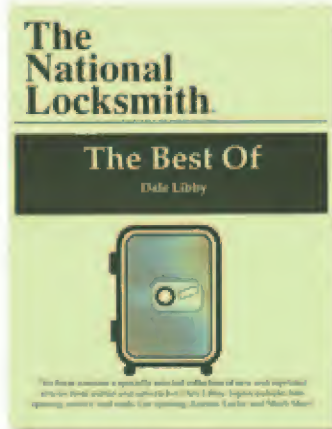
M.A.C.S.: 2

DEPTHS:

- 1= .323
- 2= .299
- 3= .276
- 4= .252

NOTES: FRAMON-Use Ford 5 pin spacing clip. Set starting cut at .017.

The Best of Dale Libby



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#DALE



The 2K Bug



Welcome
the 2K
Bug. It

seems like just yesterday when the VW Beetle was re-introduced into the North American market. It brought with it a new keyway and some interesting key making challenges. You may remember the article in the November, 1998 *The National Locksmith*, which describes the key making method for this new keyway. The new Beetle for 2000 ushers in a new challenge. The VW for 2000 will be equipped with a transponder based security system very much like the BMW autos. It uses a switchblade key with remote central locking, trunk release, and panic switch in the key head, which closely resembles the Mercedes. *Photograph 1*, shows the new key.

You may recognize the similarities between the VW key and the Mercedes keys that have been in use for the last couple of years. The spring-loaded key blade is released to the operating position by a silver button on the key head. The blade swings

out to the extended position and locks for use. The locks and keys are manufactured

by Valeo of Italy. Presently, the keys are only available from the dealer. The transponder system is Megamos.



by
Bob Sieveking

What is the Transponder Doing?

This is a generation II crypto transponder, fixed code, with 4.3×10^9 possible combinations. That is 4,300,000,000 possible combinations. It can not be duplicated.

When the key is inserted into the ignition and turned to the "ON" position, the antenna in the face of the ignition pulses the transponder with a radio signal. The transponder replies with the fixed code.

If the fixed code is correct, the evaluation unit of the auto generates a "random number" and transmits this number to the key head, and a secondary evaluation unit. There are 7.2×10^{16} (72,000,000,000,000,000) possible random numbers that can be generated. The key and the secondary evaluation unit simultaneously perform an arithmetic algorithm on the random number and the results from the key and the evaluation module are compared. If the results are the same, the evaluation unit produces a coded "GO" signal that is fed to the engine control unit. The engine starts and runs. If the results are different, i.e. the returned signal from the key is incorrect, the engine starts and immediately quits. A visual signal in the gauge cluster begins to flash, and will only cease after a correct key is used.

The use of a non-transponder mechanically correct key will also set the immobilizer into action. You have "three" tries to get the correct code, then the system goes into an "anti-hunt" mode, and will refuse to accept even the correct key for 10 minutes. After 10 minutes, you have three more tries, and the anti-hunt will "double" the "time-out" to 20 minutes. The anti-hunt time-out period continues to double, with each three failed attempts to satisfy the evaluation unit until the maximum time-out period becomes 255 minutes (4 hours 15 minutes).



A switchblade key with remote central locking, trunk release, and panic switch in the key head is used.

This is a two step (double safety) transponder system. You must first have the correct "fixed transponder code." If the auto recognizes the fixed code (the fixed code is found in the immobilizer code register) it will return a random number. If the immobilizer does not recognize the fixed code, the random number will not be generated. The second step is the arithmetic algorithm. The algorithms must return the same result to allow the auto to start and run. The immobilizer memory will accept eight (8) keys.

What is Affected?

The transponder evaluation unit is located in the instrument cluster. The transponder evaluation unit is connected to, and communicates with, the engine control module. The engine control module is also a crypto device. If you change the gauge cluster, to match a known key transponder code, the auto will not run. The engine control module must be programmed to accept the evaluation unit code. Without getting any deeper into this security quagmire, it should be sufficient to simply state that if any electronic part is changed or swapped out of this auto - from the keys to the evaluation unit, to the engine control module - the system has to be electronically reprogrammed. This also means that "all keys" must be present.

This "marrying" process is presently only available through the dealer. You will need a VAS 5051 or VAG 1551 tester to perform the programming function.

The Silca RW2 cloning device claims to have a TLM device that will address the VAG system used on Volkswagen, Audi, Seat, Skoda, etc. autos. The TLM device is not presently available in the North American Market. When available, it will allow the locksmith to directly address the VAG system, and introduce new keys or make keys when no other key is available.

What Else Will I Need?

A "secret number" (four digit number) is required to program keys. The VAG unit is electronically locked. It can not be addressed without the "secret number," which is found on a black plastic tag delivered to the end user with the original keys. Above the 14-digit identification number on the code tag is a patch of black paint, which conceals the secret number. Rub a coin over the patch to reveal the four digit secret number. If the code tag is not available, the dealer can trace it through the dealer records to access this number.

Understand that if the gauge cluster is changed, the secret number will change. The secret number is resident in the hard memory of the gauge cluster.

Without the four-digit code, you will not be able to open the programming sequence. The secret code is necessary to introduce new keys into the system. All keys must be present when introducing new keys into the system.

Is There Any Other Way to Start the Car?

Volkswagen, in its great wisdom, has given the end user an emergency start function. To prevent the inconvenience of being stranded in the case of a malfunction in the key transponder, the "Emergency start Function" will allow the auto to be started and run "One Time." This allows the vehicle to be driven to a VW dealership under its own power. You will need a mechanically correct key.

This system was designed to bypass the transponder in the key head, and assumes that the key, with the faulty

15 Minute Safe Opening



This book deals exclusively with round head lift out doors. Shows five ways to open a Major; three ways to find the Dog Pin on a Major; four ways to open a Star; four ways to open a LaGard style round head.

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#JJ - 1

transponder, is available. For the locksmith, a key would be made at the car on a non-transponder blank. If the customer has repeatedly tried the non-working key, and run up the "anti-hunt" time-out sequence, you will have to wait until the time has elapsed, before you will be able to begin the bypass emergency start procedure.

How Does the Emergency Start Procedure Work?

- Using the mechanically correct key, turn the ignition to the "ON" position.
- Press the button on the trip odometer, and simultaneously twist the setting knob on the clock. The trip odometer will be set to "0000." The first digit of the trip odometer display will begin blinking.
- Using the reset button of the trip odometer, press the button to index the first digit from 0 through 9. Press the reset button until the first digit of the trip odometer comes to the first digit of the "secret number."
- Twist the setting knob for the clock. The first digit will remain as set in the previous step, and the second digit will begin to blink.
- Press the reset button of the trip odometer to index the second number of the display. Continue to press the reset button until the second digit of the secret number appears.

The display will now show the first two digits of the secret number.

- Twist the setting knob for the clock. The first and second digits will remain, and the third digit will begin to blink.
- Press the reset button of the trip odometer to index the third number of the display. Continue to press the reset button until the third digit of the secret number appears.

The display will now show the first three digits of the secret number.

- Twist the setting knob for the clock. The first, second, and third digits will remain, and the fourth digit will begin to blink.
- Press the reset button of the trip odometer to index the fourth number of the display. Continue to press the reset button until the fourth digit of the secret number appears.

The display will now show all four digits of the secret number.

- On the instrument cluster, simultaneously twist the clock-setting knob and press the reset button for the trip odometer.

If the Valid Secret Number Has Been Input Correctly:

- The trip odometer display will show again in the odometer counter window. Indicates trip at "0000."
- The warning light for anti-theft immobilizer will go out.

If the Valid Secret Number Has Been Input Incorrectly:

- The trip odometer display will go out, and show again in the odometer counter window. Trip odometer indicates "FAIL" in the digits window.

You will have to try again. Three tries failed, then wait 10 minutes. Three more, and wait 20 minutes. Three more tries and wait 40-minutes. The anti-hunt delay feature becomes more active with repeated failed attempts.

If during the secret number input sequence, no button operation occurs for longer than 30 seconds, the emergency start procedure will be interrupted. You will have to start over from the beginning.

- Switch the ignition to "OFF", then immediately start the car. Do not remove the key from the ignition. If you remove the key, you will have to begin the procedure again.

Stalled Engine Feature

This allows the auto to be restarted in the case of a stall. If the engine stalls or quits, you can only restart if:

1. Less than 5 minutes have elapsed since the engine was switched off and the ignition key removed from the ignition lock.
2. Less than 45 minutes have elapsed since the ignition was switched off, but the ignition key remained inserted in the ignition lock.

Once used, the emergency start procedure is not operable again until it is reset by the dealer, or by the use of a VAG 1551 or VAS 5051 diagnostic programming tool.

What Vehicles Will Have This System?

The generation II and generation III systems will be standard equipment on:

	Year 2000 model	Year 2001 model
Volkswagen		
Golf	Generation II	Generation III
Jetta	Generation II	Generation III
Cabrio	Generation II	Generation III
New Beetle	Generation II	Generation III
Passat	-----	Generation III
Eurovan	-----	Generation III
Audi		
A4	-----	Generation III
A6	-----	Generation III
A8	Generation III	Generation III
TT	-----	Generation III
S4	-----	Generation III

(Emergency Start procedure not applicable to Audi vehicles.)

The new generation III system, which uses the same transponder technology, but incorporates an expanded engine control security module, will find its way into the 2001 model VW's and Audi Vehicles. The Audi A-8 has the only third generation system that will be used in 2000. The difference between the third and second-generation immobilizer systems will be transparent to the end user and locksmith. The differences will only be seen in the dealer service procedures.

This immobilizer system will insure customer loyalty. Like the Chrysler transponder system, the transponder secret number will require dealership involvement. VW and Audi want your service business. Owners will be inextricably married to the dealer.

How Many Keys Come With the New VW?

The new VW is delivered with three keys. All three are transponder equipped. Two of the keys are switchblade type, as pictured above. The third key is a Valet, or mechanics key. The mechanics key will not enter the trunk or glove box lock. It operates the driver's door and ignition only. Though the auto will accommodate 8 transponder keys, the central locking pendant control system will only keep track of 4 controls. The pendant controls use a rolling code type

system. Each time the pendant is used, the code is changed. If the pendant lock/unlock button is pressed repeatedly while out of range, the code will be changed (indexed), and the pendant will have to be re-synchronized with the auto. The procedure requires two working keys, and is outlined in the owner's manual.

What About the Mechanics of the Locking System?

The mechanical locks used on the 2001 VW Beetle are identical to those used on the 2000 Beetle. *Photograph 2*, shows the passenger door handle. Surprise, there is no lock in this door. The Euro design dictates that there is no lock on the passenger door. Though chic in some circles, I see this as a cost saving procedure for the automaker. What if the drivers door lock fails and the battery is dead? The



2

Surprise, there is no lock in the passenger door.

pendant locking device will not open the car, and the key will be of no use. There is no back-up for this eventuality.

How Do I Open This Auto?

Opening the Beetle is a walk in the park. I opened the passenger side using a simple "L" tool. The tool used was the handle of an existing wire tool. The lock button linkage is located 6-1/2" below the top of the weather strip. The "L" tool has a 3-5/8" long L section. *Photograph 3*, shows the opening tool being measured from the weather strip to the bottom of the handle.

Hold your thumb on the tool to hold this measurement, wedge the weather strip away from the glass, and insert the tool with the L pointed to the front of the vehicle. With the tool at the rear corner of the glass, as you see in *photograph 4*, rotate the tip of the tool toward the inside of the car. You will see the button move as you contact the linkage. Lift straight up to unlock the door.

The alarm will sound as the door is unlocked. Immediately open the door. To silence the alarm, use the



3

The opening tool being measured from the weather strip to the bottom of the handle.



4

Position the tool at the rear corner of the glass.

key to cycle the drivers door cylinder to the locked position and back to the unlocked position.

Photograph 5, shows the lock button in the driver's door. A red LED indicator shows the status of the alarm. When the alarm is active, the LED will be lighted. After the door has been unlocked with a key, the LED will be out, and the anti-theft alarm will be silenced.

What is the Easiest Method to Generate a Mechanical Key?

For this vehicle, the drivers door cylinder is the fastest and easiest to remove. *Photograph 6*, shows the driver's door handle. To remove the lock cylinder, you will find a rubber plug in the edge of the door. Remove the plug to reveal the cylinder retaining screw, as you see in *photograph 7*. Use a T-20 torx driver to loosen the screw. This will release the door cylinder. It is not necessary to completely remove the screw.



5

A red LED indicator shows the status of the alarm.



6

The driver's door handle.



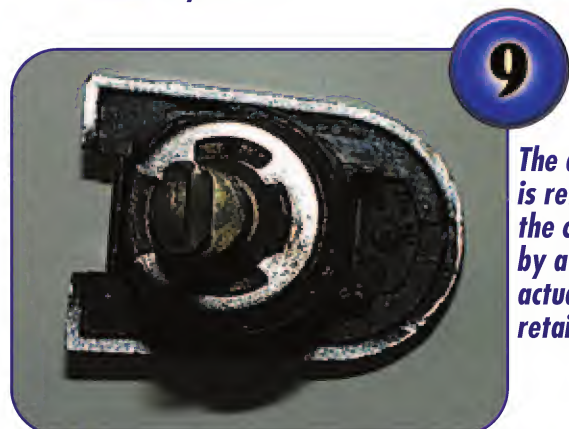
7

Remove the plug to reveal the cylinder retaining screw.



8

A side view of the door cylinder.



9

The actuator is retained on the cylinder by a special actuator retaining clip.



10 Press in on the actuator to push the clip retainer down to remove.



11 The wafers removed from the lock plug are serrated wafers.

The 2000 locks were manufactured by Huf, and the keys were Valeo. This year we find the Valeo cylinder. This cylinder is painted black for some reason. The construction of the cylinder is identical. *Photograph 8*, shows a side view of the door cylinder. Note that the date of manufacture is not stamped on the 2001 cylinder, as it was on the 2000 cylinders.

Photograph 9, shows a rear view of the removed door cylinder. The actuator is retained on the cylinder by a special actuator retaining clip. The clip is retained by two projections on the clip retainer. To remove the actuator retaining clip, press in on the actuator to push the clip retainer down. The retaining clip will then be free to slide off the cylinder, as you see in *photograph 10*.

Remove the actuator, actuator centering spring and clip retaining ring from the cylinder. At this point the plug will be free to remove out the front of the cylinder housing. The wafers must be picked one at a time from front to back as the plug is removed.

The depths are stamped into each wafer. Read the depths, to find the combination for the key.

Photograph 11, shows the wafers removed from the lock plug. These are serrated wafers. Though not impossible, it is very difficult to pick this cylinder.

Something very interesting about the track design of this key is that the key will positively position the wafer. In most cylinders, the key only lifts the wafer against the tension of the wafer spring. The groove in the VW key is designed to lift and/or pull down the combining wafers. This design was adopted because of its cold weather ability to free a frozen wafer.



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#ASA - 2000

February 2000 • 53



12 The positions of the wafer bittings in the cylinder.



13 The #2 and #4 wafers have their spring ears positioned slightly higher than the #1, and #3 wafers.

Photograph 12, illustrates the positions of the wafer bittings in the cylinder. The wafers are stacked, with the number one wafer on top, and the number four at the bottom. You would think that this lock would be fairly easy to read. Sorry friends, the folks at Valeo saw you coming, and threw a monkey wrench into the works.

Photograph 13, shows the spring ears of the same four wafers. Note that the #2 and #4 wafers have their spring ears positioned slightly higher than the #1, and #3 wafers. This arrangement prevents the #2 and #4 wafers from rising to the same heights as the #1 and #3 wafers. When you read these cylinders, you will only be able to see two depths. The #1 and #2 wafers appear to be the same height in the keyway. The #3 and #4 wafers also appear to be the same height. The cylinder only shows a deep or a shallow depth. Reading this cylinder is not worth the effort.

Remove and disassemble the door cylinder to find the key bitting.

Is There Any Difference in the Depth and Space for 2000?

The key bitting for the 2001 VW may be a little different than that found in the 2000 vehicles. I measured the width of the side groove at .122" for the 2000 key. The 1999 keys measured in at .116". The depths also measured differently. I found the 2000 key depths to be:

	1999	2000	Difference
1 depth	.155	.149	.006
2 depth	.133	.127	.006
3 depth	.109	.104	.005
4 depth	.085	.0815	.0035
Step	.0235	.0228	.0007
Groove width	.116	.122	.006

Key measurements were taken from two separate 2000 vehicles, and the dimensions were the same. Pattern keys for the 2000 vehicles will be different. The difference is not significant, but should be noted.

Photograph 14, illustrates the depths. There are four depths. The deepest is a 4 and the shallowest is a 1. The sidewinding slot is .122" wide. The bitting for this key is 24334312, bow to tip.

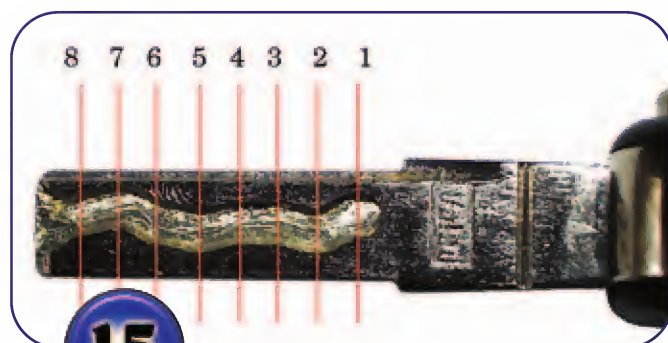
Photograph 15, illustrates the space locations. There are 8 spaces. The cut-to-cut dimension is .1186" with the first cut being at .120". This key is shoulder gauged.

How is the Ignition Removed?

The ignition is removed the same way as the 1999 models. Photograph 16, shows the ignition in the "OFF /



14 There are four depths, the deepest is a 4 and the shallowest is a 1.



15 The space locations indicating the 8 spaces.



16 The ignition in the "OFF / LOCKED" position.



17

The ignition removed.



18

The ignition cylinder retainer.

LOCKED" position. Note the position of the hole in the hardened face of the lock plug. This is the access hole for the cylinder retainer.

Insert a working mechanical key, and rotate the ignition to the "ON / RUN" position. This will align the retainer access hole with the cylinder retainer. Insert a .055" wire into the access hole, to retract the cylinder retainer. Pull the ignition from its socket in the steering column. The soft rubber boot, around the ignition, may need to be pulled away from the transponder antenna electrical plug, to allow the cylinder to slide out. The connector on the antenna should be disconnected as the ignition is pulled out. Be



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#MOT - 2

February 2000 • 55

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19

The position of the transponder antenna connector.



21

The glove box lock contains tumblers in positions 5 through 8.



20

The trunk cylinder contains all eight tumblers.

careful to disconnect the locking electrical plug with a poke tool. Do not break the electrical wires. There is very little slack in the wire harness at this point. *Photograph 17*, shows the ignition removed.

A better view of the cylinder retainer is shown in *photograph 18*. The retainer can only be depressed when the ignition is in the "ON" position. *Photograph 19*, shows the position of the transponder antenna connector. Be careful to position the antenna connector properly, when re-installing the ignition cylinder. There is no code on the ignition cylinder. There is however a manufacturing date stamp. This ignition was manufactured in May (05) of 99.

The ignition is replaced as easily as it was removed. Remove the soft rubber boot to make it easier to reconnect the transponder antenna connector. Fish the connector to the opening, and hold it in place as the ignition is slid into the column. Connect the plug and slide the ignition in, until the retainer seats. Turn the ignition to the "OFF" position and remove the key. Insert the key and test start the auto, to confirm that the antenna has been properly connected. Replace the soft rubber boot to complete the installation. There is no need to remove the plastic column shroud.

There are only two other locks on the auto. The trunk cylinder, shown in *photograph 20*, contains all eight tumblers. The glove box lock, shown in *photograph 21*, contains tumblers in positions 5 through 8. I could think of no reason to remove either of these cylinders. The door cylinder is the best choice for removal if you are called to make a mechanical key for this vehicle.

It is my understanding that all VW dealerships are required to purchase a Framon key machine this year, specifically to duplicate and originate these keys. This certainly is not the service friendly little bug I used to drive. It truly is a 2K Bug. **TNL**

INTERCOM

Fast becoming an essential component in any access control system, intercoms are rapidly growing in popularity and applications. Where they were once considered little more than communication devices, the intercom systems of today offer far greater features, functions and applications than ever before.

If you are designing an access control system, an intercom system should be part an integral of that design.



Aiphone Intercoms for Convenience and Security

Many people still think of intercoms as little more than convenient room-to-room communication tools. Intercoms are now much more than that. They are fast becoming the core of sophisticated security systems used by residential, commercial and industrial customers.

The demand for security in the residential market has increased significantly in the last few years. People are more security conscious, both when they're away and at home. Whether it's the luxury home, moderate home, or an apartment, an intercom system can provide homeowners a sense of security.

An intercom system can serve as the ears of a home, augmenting perimeter alarm systems. Outside sensors pick up noise or movement and activate intercoms or monitors, alerting occupants to unusual outside activities before someone breaks a window or kicks in a door. Plus, intercom systems are inexpensive, and easy to install, even in retrofit situations.

Two-way audio intercoms can often be installed simply by using an existing doorbell wire, which is very inexpensive. Audio intercoms provide communication room-to-room, room-to-door, and many have a simultaneous all call that allows the homeowner or business to communicate with all room stations at once.

Intercom systems are unobtrusive and don't look like security. Intercom systems can be installed to enhance any household or office decor. Door stations at outside entrances blend to the building, are small and compact. Room stations seem more like a convenience than anything else.

Every residential, commercial, or industrial customer needs some sort of communication system. An intercom system provides just that; communication plus security.

For more information contact Aiphone at: (425) 455-0510; Web: www.aiphone.com. Circle number 288 on Rapid Reply.

DoorKing Multi-Unit Telephone Intercom System

DoorKing's Model 1816 Telephone Intercom System is a unique communication and access control system that provides building residents with full duplex voice communication to, and control of, a buildings entrance door through their own telephone.

The 1816 uses the existing telephone wires in the building and does not require Central Office service for operation. This eliminates the need for costly hard-wired intercom systems and monthly line charges and equipment lease payments to the telephone company. In addition, Central Office service is not required by a building's resident to be able to communicate with the lobby panel to grant or deny visitor access. This makes the 1816 ideal for low income and government housing authority projects.

To operate the system, a visitor enters a four digit "directory code" on the lobby panel keypad. Residents have their own unique directory code assigned to them. After

SYSTEMS

the visitor enters the code, the 1816 will automatically connect the lobby panel telephone with the resident's telephone and will identify the call as a lobby panel call with a unique double ring. The resident may then grant access by pressing 9 on their telephone, or deny access by simply hanging up.

The 1816 system is easy to use and maintain. There is no reprogramming required when a resident moves and a new tenant moves in. Other standard features include call waiting, double ring feature, doorman phone inputs, programmable directory codes, and a variety of lobby panels to choose from. In addition, the 1816 will easily interface with other DoorKing access control systems to complete your security requirements.

For more information contact DoorKing at: 800-826-7493;
Web: www.doorking.com. Circle number 289 on Rapid Reply.

TekTone Tek-GUARD

Form and function come together beautifully with TekTone's custom-made Tek-GUARD Vandal-Resistant Entrance Panels. The Tek-GUARD Series is patterned after our standard condominium and townhouse applications.

To make Tek-GUARD as vandal-resistant as possible, we start with only the most durable of materials. The panel and engraveable push buttons are made of solid, extruded aluminum.

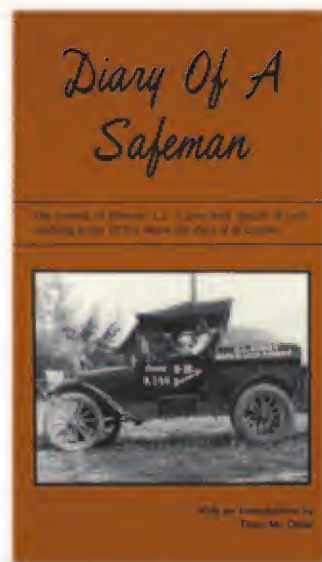


The Tek-GUARD Panel features louvers and faceplate combined with a perforated aluminum material to protect the speaker and microphone from damage. For even greater longevity, the speaker itself is made of weather-resistant Mylar. Solid aluminum engraveable push buttons ensure long life and virtually eliminate cracking, peeling and wear. Up to four letter/digit combinations of your choice are permanently marked on the buttons. Post office door openers are also available.

Smaller buildings use the Tek-Guard AM Series, with individual polycarbonate name holders beside each button, and loudspeaker-type apartment stations. Larger facilities use the modular Tek-GUARD CM Series, which can be configured for use with either loudspeaker-type or telephone-handset apartment stations. The CM Series includes an easily accessible 60-name directory, protected by a scratch-resistant polycarbonate panel, for convenient, alphabetical listing of residents. Add vestibule panels with buttons, a frame and a housing — and you've configured a custom panel to fit your specifications.

For more information contact TekTone at: (828) 524-9967; Web: www.tektonne-sound.com. Circle number 290 on Rapid Reply. **TNI**

Diary Of A Safeman



This book is a real gem...the private safe diary of old time safecracker C.L. Corey.

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#DIARY



Overhead Door Closers

by Lynn Eisenhauer

Overhead concealed closers that offer the choice of concealment in the door or frame are both popular and aesthetically pleasing. While the most common application for concealed overhead closers is in typical aluminum storefront entrances, concealed-in-door closers provide a unique application that locksmiths can offer to their customers for interior doors.

The closer can be mortised into the top of the door with the concealed track channel mortised into the frame header. It can also be mortised into the frame header with the track channel mortised into the top of the door. In either application, the door and frame must be machined and prepared to accept the product before installing the door and frame at the job site.

Overhead concealed closers of this type have been available for some time, but were typically found in limited applications. The inherent inefficiencies of their rack and pinion and the slide-arm assembly mechanism, and the small size required to fit the closer into the top of the door limited door size and weight. The only solution was to use an unsightly double-lever arm that defeated the intent of aesthetic and vandal-resistant concealment.

That changed with the cam and roller technology employed in DORMA's ITS 96 closers. This type of closer has higher operating efficiency, making it a more viable option for normal door and frame applications. In addition, ITS 96 closers are spring adjustable sizes 1-3 and are designed to control doors up to a maximum width of 36 inches. The higher level of operational efficiency permits use of a

track arm assembly, making these closers good choices for interior applications such as ballrooms, corridors, museums, executive office doors and other non-listed applications.

If spring power adjustments are needed, the ITS 96 incorporates a gear assembly so that spring adjustments can be made after installation into the door or frame.

The ITS 96 Series is available in non-hold-open or adjustable hold-open configurations with a cushioned stop adjustable between 80 degrees to 130 degrees. The cushioned stop helps to prevent damage to the door and wall when the door is opened normally. It is not abuse-resistant, and cannot replace a door stop in many situations. In high-abuse areas, a separate limiting stop may be advisable.

Installation

Both the door and frame must be properly prepared to accept the closer and track prior to installation. The first step in this installation as with any overhead concealed closer installation is to coordinate the door and frame machining with the appropriate templates at the time these components are originally ordered. ITS 96 closers must be used on independently hung doors because the closer itself can not serve as a pivot point for the door. Doors controlled with ITS 96 closers are usually hung on hinges. If a pivot hung application is

considered, it is important to check that there is no conflict between the closer components and top pivot leaves.

Step-by-Step Installation

Perhaps the most common installation is on an unlabelled wood door and wood frame, with the closer in the door and the track in the frame.

1. First determine the hand of the door (*see illustration 1*) then prepare the door and frame according to the template supplied with the unit.

2. Next adjust closer spring tension. (*See illustration 2.*) Closers are normally supplied with a minimum spring setting of size 1. This setting is compliant with Americans With Disabilities Act requirements for barrier-free openings. Depending on conditions, however, closers adjusted for ADA-compliant doors may not provide enough closing force to close and latch the door. If this is the case, the spring tension must be increased. Clockwise turns increase spring tension. Spring tension can also be adjusted/readjusted after the closer body is installed. Therefore, the installer can fine-tune the spring power requirements after all of the components are in place.

3. Thread screws a few turns into the deadstop block. (*See illustration 3.*) Insert components into track then fasten track to frame.

4. Place arm on closer according to hand of door. Secure arm with pinion screw. (*See illustration 4.*)

5. Close the valve by turning the screw completely clockwise. Rotate arm 45 degrees. (*See illustration 5.*)

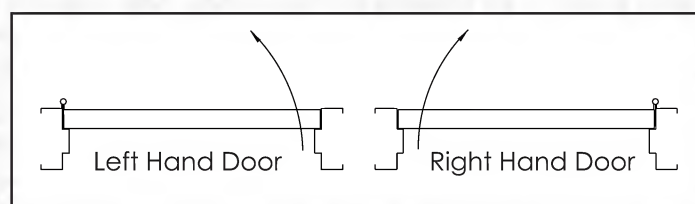
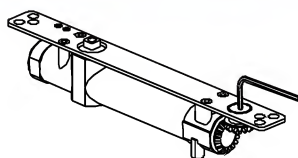


Illustration 1.

Adjust spring tension.

CRITICAL



5MM HEX
WRENCH

NOTE: Closer is normally supplied with minimum spring setting as a size 1. Clockwise turns increase spring tension.

NOTE: MAXIMUM NUMBER OF TURNS - 17

BARRIER-FREE OPENINGS - Adjust only if more tension is required to close and latch the door. Depending on opening conditions, a door adjusted to meet barrier-free forces may not have sufficient power to reliably close and latch the door.

NON-BARRIER-FREE OPENINGS-Adjust according to chart.

DOOR WIDTH (INTERIOR)	FULL TURNS OF SPRING ADJUSTER	SPRING SIZE
2'-6"	8	2
3'-0"	15	3

ULC LABELED UNITS ONLY - ADJUST ACCORDING TO CHART.

MAX. DOOR WEIGHT(lbs)	FULL TURNS OF SPRING ADJUSTER	SPRING SIZE
100	8	2
125	15	3

Illustration 2.

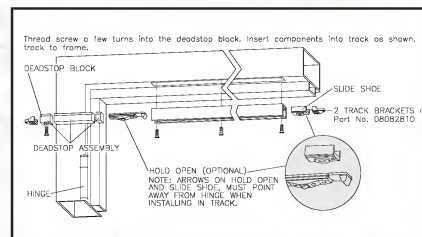


Illustration 3.

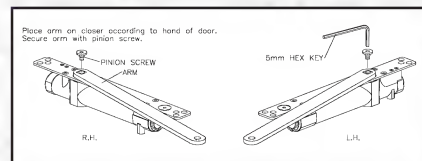


Illustration 4.

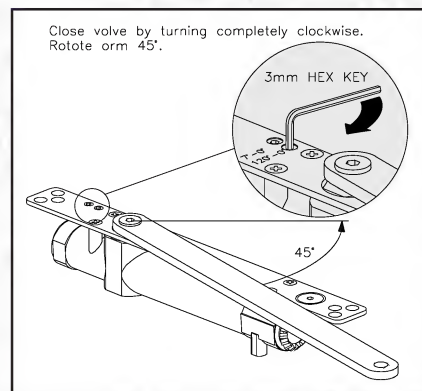


Illustration 5.



Dave McOmie NSO & Article Collection on CD

This CD contains every NSO newsletter and McOmie File Dave has ever published.

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#DMCD - 2

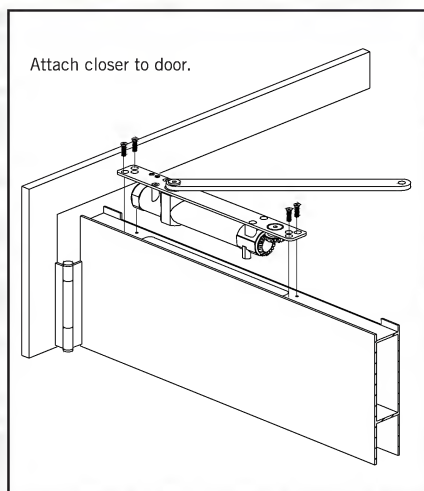


Illustration 6.

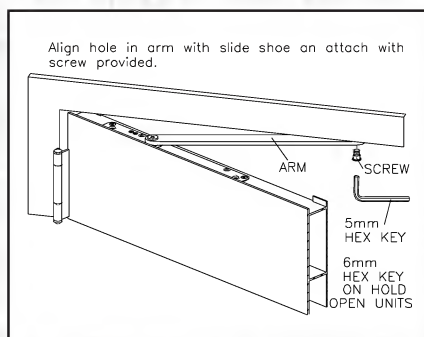


Illustration 7.

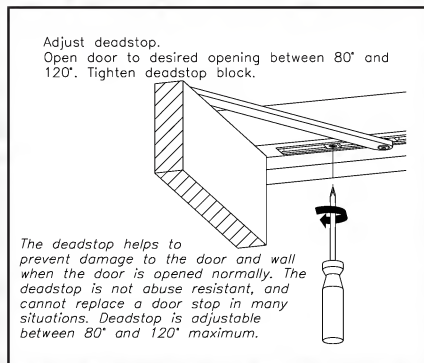


Illustration 8.

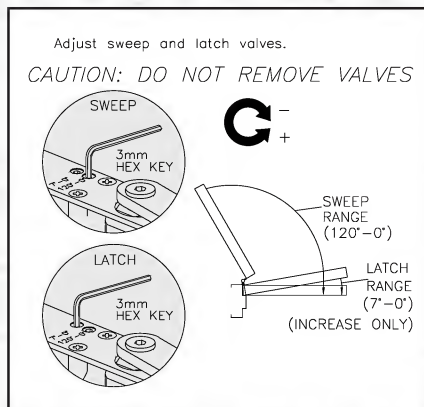


Illustration 9.

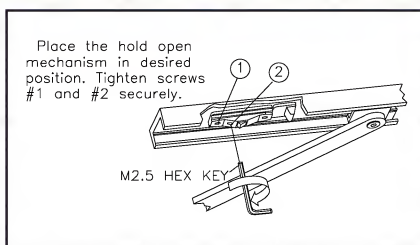


Illustration 10.

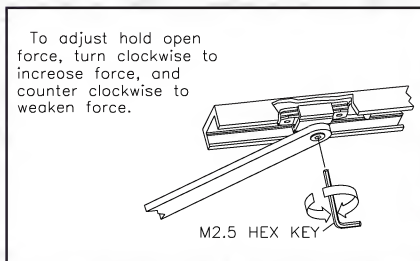


Illustration 11.

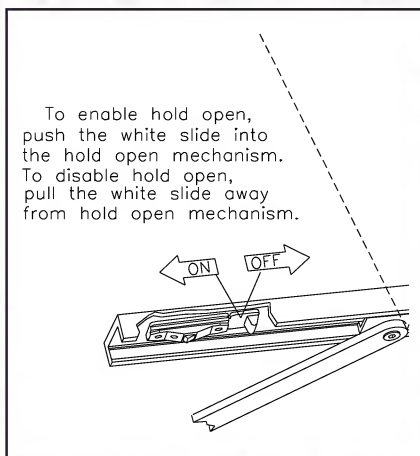


Illustration 12.

6. Install closer in door. (See illustration 6.)

7. Align hole in arm with slide shoe on attach with screw provided. (See illustration 7.)

8. Adjust deadstop. Open door to desired opening between 80 degrees and 120 degrees and tighten deadstop block. (See illustration 8.)

9. Adjust sweep and latch valves. (See illustration 9.) Do not remove valves.

10. On hold open units only, place the hold open mechanism in desired position and tighten screws securely. (See illustration 10.)

11. To adjust hold open force, turn clockwise to increase force or counter clockwise to decrease force. (See illustration 11.)

12. Enable the hold open by pushing the white slide into the hold

open mechanism. To disable, pull the white slide away from the hold open mechanism. (See illustration 12.)

Conclusion

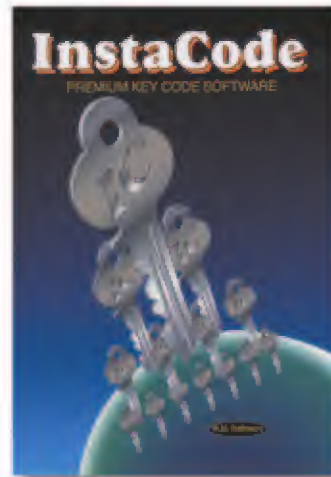
Overhead concealed closers are a viable option for many applications in which total concealment is desired. The ITS 96 extends the range of applications for overhead closers to include concealment in the door or header in metal or wood doors and frames.

The primary reason to use a concealed door closer is to provide an aesthetically clean look and vandal-resistant concealment. Surface mounted closer arms are always a vulnerable protrusion. It is common for people to hang on the closer arm and either bend or break it from its mounting. Concealed closers eliminate this problem, greatly reducing vandalism operation problems and repair costs.

The installation of concealed closers is more difficult and time consuming than a standard surface mount, but the added benefits can be worth it.

For more information on the full line of DORMA closers, call (800) 523-8483 or circle 285 on Rapid Reply. **TNL**

InstaCode



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#IC - 2001

BEGINNER'S CORNER

Servicing the Kwikset Titan



by
**Jim
Langston**

Servicing a Kwikset Titan 740H is not as difficult as it might seem. Kwikset locks have never been a difficult lock to service, but the Kwikset Titan line is even easier because the lock does not need to be removed from the door to service or rekey like the Kwikset line.

The lock cylinder of the Kwikset Titan is front removable much like an interchangeable core lock. (See photograph 1.) A slight modification to the operating key will remove the lock cylinder from the knob without removing the entire knoblock from the door.

Titan Specs:

The Titan lock comes standard with a 6-pin cylinder as opposed to a standard 5-pin cylinder for Kwikset. If you encounter one of these locks on a door and you don't have an operating



1. The Kwikset Titan is front removable much like an interchangeable core lock.



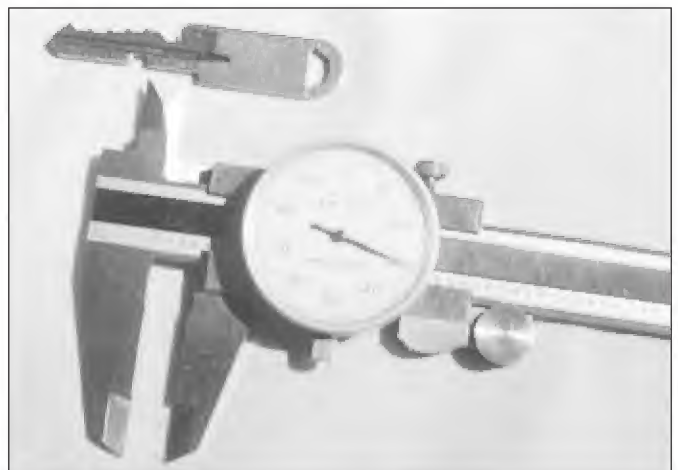
2. The cylinder can now be removed from the knob housing for servicing.

key, you can open it by picking it or by impressioning it. If you pick it open, you should pick it counterclockwise a quarter of a turn. By doing so, the cylinder can then be removed from the knob housing for servicing. (See photograph 2.)

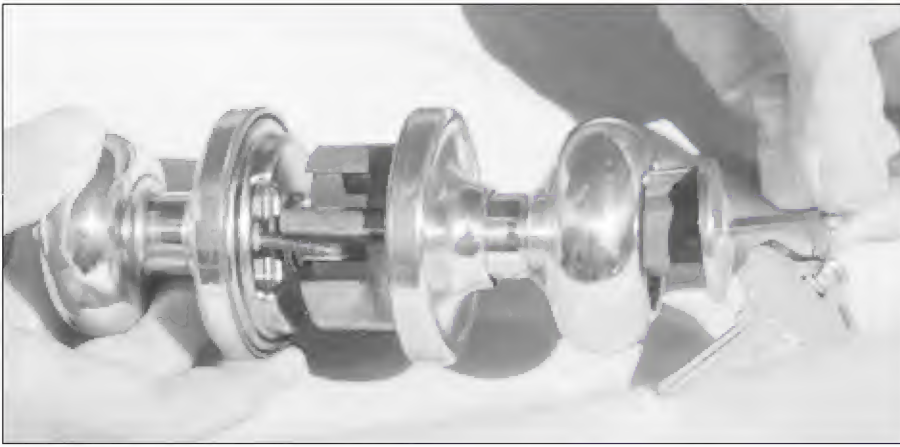
If you impression the lock, you must have a ward cut (slot) on the backside of the key blank to remove the cylinder. You can either file a slot in a blank, or you can get a pre-slotted blank (called a rekeying tool) from the dealer or your distributor. Your distributor should have them in stock. Photograph 3, shows the Titan key and a factory rekeying tool on the left.



3. The Titan key and a factory rekeying tool.



4. A ward cut must be present on the key to remove the plug.



5. Turn the key a quarter turn counter-clockwise and pull the lock cylinder out.

Key Preparation:

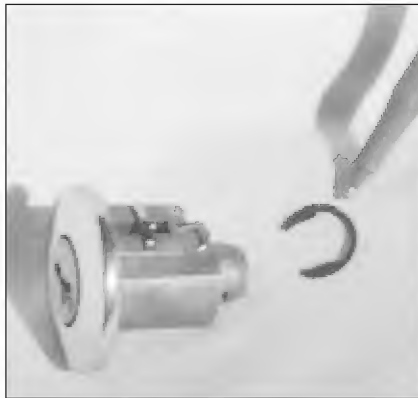
If you cut a ward cut on a blank yourself, measure .410 to .540 inch on the back side of the key from the bow toward the tip about 3/16 inches wide and about 1/8 inch deep. (See photograph 4.) If you are rekeying the lock and have a customer's operating key, you can cut a slot on the back of the key in the same position to remove the cylinder for rekeying. Also, when you rekey the lock, you need to have a key with a slot in it to put the cylinder housing back in the lock.

Removing the Cylinder:

Once you have your rekeying tool fabricated, turn it a quarter turn counter-clockwise and pull the lock cylinder out. (See photograph 5.) After you have the cylinder out of the lock to rekey, first remove the horseshoe shaped clip on the end of the plug. (See photograph 6.) Then take a pair of needle nose pliers and remove the wire spring on the side of the lock where the retainer is. (See photograph 7.) That retainer is what holds the cylinder in the lock housing.

Keep one finger on the retainer when you remove the spring from the side of the cylinder and lay both the spring and retainer aside. (See photograph 8.) The plug can now be removed to rekey.

Take a following tool and remove the plug from the cylinder housing as seen in. (See photograph 9.)

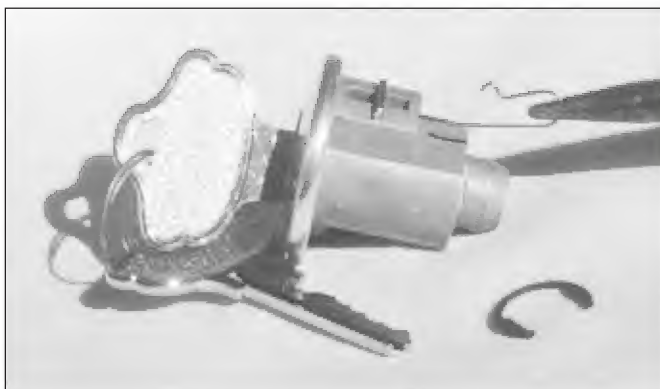


6. Remove the horseshoe shaped clip.

NOTE: This spring and retainer need to be removed so you can rekey it properly. The spring and retainer are very simple to replace and are necessary when master keying.

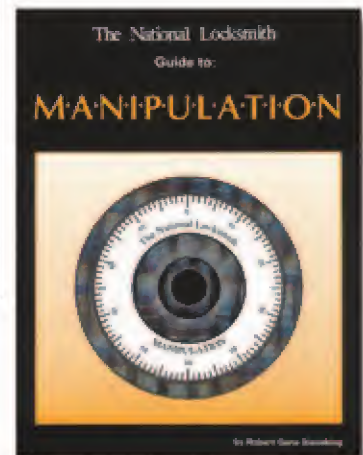
Cylinder Reassembly:

When you are through rekeying the plug, place the plug back into the cylinder housing using your rekeying tool (the key with the slot in the back.) Holding the lock in the upright position replace the horseshoe shaped clip on the back of the lock. Now with the rekeying tool turn your key 90-degrees counter-clockwise. Now you



7. Remove the wire spring on the side of the lock.

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#MAN - 1



8. Lay both the spring and retainer aside.



9. Take the tool and remove the plug from the cylinder housing.

can replace the wire spring and retainer.

Put the retainer in the side. It should be flush with the cylinder housing. With your needle nose pliers, insert the wire spring in the side. It will not go in all the way. You must push down on the top of the wire spring to make it snap into position.

Once this is done, you are ready to put the cylinder into the knob lock

body. Once it is all the way in, rotate the key back ninety degrees clockwise and remove the key from the lock.

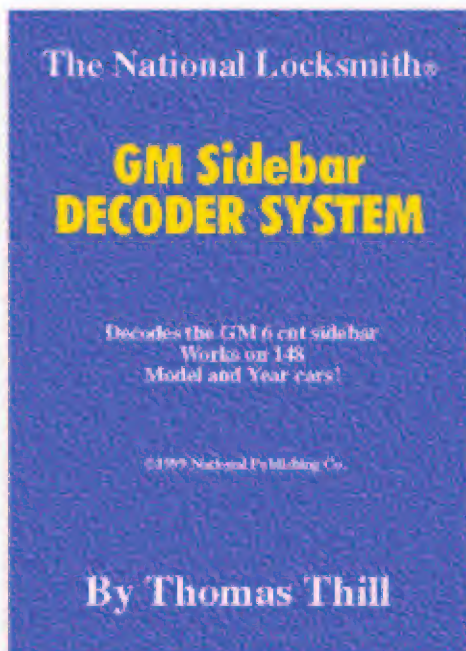
NOTE: Do not give the rekeying tool (key with the slot) to your customer because they will not need this key.

Closing Comments:

The Kwikset Titan line is a vast

improvement over the standard Kwikset lock hardware, not only from a service standpoint, but in construction as well. Once you service or rekey a Titan lock, you won't want to work on a Kwikset again.

*For more information on Titan locks call: (714) 474-8800. Circle #282 on the Rapid Reply Card. **TNL***



GM Sidebar Lock Decoder System

Tom Thill, the author of a new book, has invented an amazing new way to make keys for six cut GM Sidebar Locks.

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#TT - 1

The LIGHTER Side

Is There a Doctor in the House?



by
**Sara
Probasco**

“Well, I’m not about to scrub up like I had to the last time I did some work over there!” Keith exclaimed when Don handed him a work order for the local hospital.

“I don’t think you’ll have to, over this,” Don tried to assure him. “That last time, you were working on a door inside a sterile research lab. This is just a couple of locks in a supply cabinet that are giving them some trouble.”

“All I know is, the last time, whenever I would go out to the truck to get something I had to take off the monkey-suit they had me wearing, go through security clearance, and then scrub and get suited up all over again before they’d let me back in. It was a mess.”

“What about your tools? Did they make you sterilize them, too?” Harold asked.

“You know, nobody ever mentioned that. But I’m sure they would have if they’d thought about it.”

When Keith arrived at the hospital and asked directions to the problem area, he was told the cabinet was located inside a surgical suite.

“Nurse Garza will give you a set of surgical greens to wear,” the woman added.

“Whoa!” Keith retorted. “I’m not going to have to scrub and all that mess, am I? I went through that the last time I was here, and I really don’t have time today.”

She assured him scrubbing would not be necessary, as his particular work would not take him inside a sterile environment. “But no one goes through the doors into the surgical suite unless they have on greens. It’s a basic policy, around here.”

Grumbling, Keith followed Nurse Garza back to a supply room, where she sized him up with a glance and handed him a pair of freshly laundered green pull-on pants and a short-sleeved pull-over shirt. When he

pulled them over his clothes, Garza tossed him a pair of elastic-top bags.

“What are these for?” Keith asked.

“Slip them over your shoes,” Garza replied. “They’re anti-static. Without them, when you walk across the floor your shoes may create tiny electric sparks that could cause an explosion in there where they’re using pure oxygen.”

“That’s a cheerful thought!” Keith muttered to himself.

“We try to take every precaution,” Nurse Garza assured him.

“Say, can I have one of those little face masks the doctors wear?” Keith asked, suddenly perking up. “It’ll keep stuff out of my nose and mouth, in case I have to drill out a lock or something.” His winning smile persuaded her, and he tied the strings around his neck, allowing the mask to hang down on his chest as the doctors do when they’re not actually in surgery.

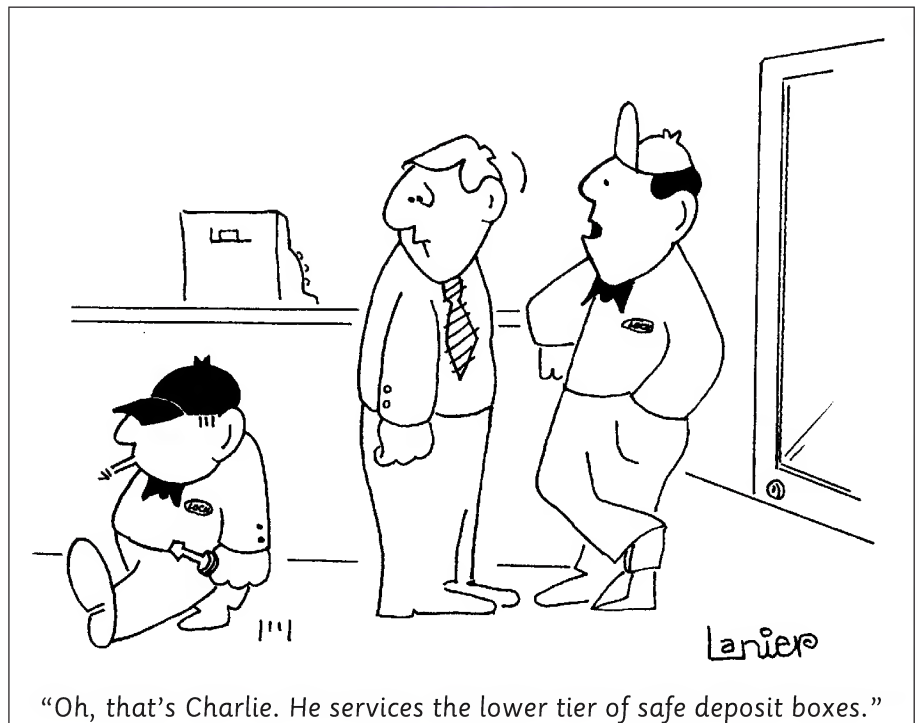
Nurse Garza shook her head and smiled, as she led the way to the

surgical suite. When they reached a set of double doors, she pushed them open and pointed the way.

“The cabinet is all the way to the back, in the little room to the left,” she said “If I can be of further help, just have me paged, and I’ll meet you here at this door.”

Obviously, Keith decided, since Garza wasn’t suited up in “greens,” she couldn’t cross the threshold and enter the surgical suite. He walked a little taller as he stepped across and waved goodbye.

The cabinet in question was no problem to find. Keith quickly sized up the nature of the problem and went out to his service van for the appropriate parts and tools. On his way back in, he was carrying an open tool box that contained a hammer, saw, screwdrivers, pliers, assorted locksmith tools, lock parts - all appropriately corroded and grungy. As he pushed open the doors to the surgical suite, he encountered a different nurse. She was appropriately dressed in green.



"Oh, there you are!" she said. "As soon as you scrub, we're ready."

Keith glanced about, but there was no one else there for her to be talking to.

"Well, I...." he stammered.

"Can I take that for you, Doctor?" she asked, reaching for his toolbox.

Then she glanced at what he was carrying. She looked more intently, and a little frown creased her brow. She glanced back up at Keith's face, a momentary hint of terror playing in her questioning gaze.

"You're not Doctor Winstead, are you?"

Keith shook his head.

"You're not a doctor at all."

"No, but it sure was exciting there, for a minute," Keith said, smiling.

"Scary, isn't it!" Don said when Keith had later told us of his experiences.

I couldn't help thinking of some of the "horror" stories we all hear from time to time, regarding mistakes made in surgery. However, none of them had involved a service technician being mistaken for a surgeon!

"Just think, if I keep doing work for the hospital, we could do like a locksmith I met from another state, and call ourselves the Lock Doctors," Keith said, his eyes sparkling at the thought.

"Remember when Ted was working for us?" I asked Don. Then I explained for the benefit of our newest employees: "For several years, when we first opened our store here in Uvalde, we had a retired university professor working for us part-time. He held a PhD in etymology - the study of bugs - but he had always loved working with his hands, and he became a whiz at locksmithing. Whenever he was on the job, we would jokingly tell our customers 'The doctor is in'."

"So you didn't have to scrub, after all," I heard Harold say as he and Keith returned to their work.

"Not this time," Keith replied. "But, you know, I can't help wondering just how far I could have gone, if she hadn't seen my tool box."

Don rolled his eyes and whispered to me, "Real scary!" **TNL**

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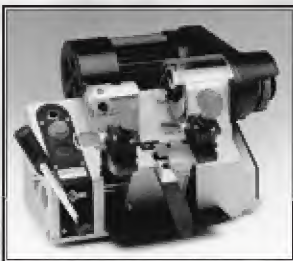
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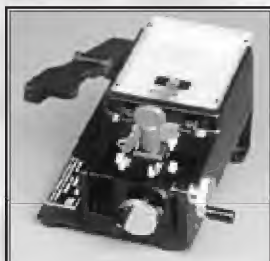
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MAS-HAMILTON'S AUDITCON 2100

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SDC MAGNETIC LOCK

Jeffrey A. Oswalt, Florida. For his Binks style cylinder tip.

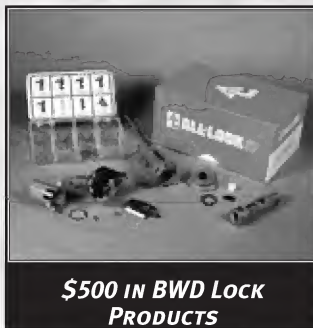
5th Prize



LAGARD SMART GUARD

Bruce Paget, Texas. For his Best control key chart.

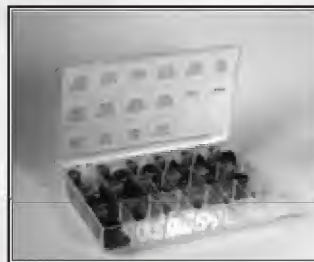
6th Prize



\$500 IN BWD LOCK PRODUCTS

John Lee Wright, Iowa. For his tip on repairing broken turn signal springs.

7th Prize



\$500 IN ASP AUTO LOCKS

Robert Blake, New York. For his Renault shim trick.

8th Prize



\$500 IN STRATTEC AUTO LOCKS

Kurt Schwebe, Wisconsin. For his airbag tip.

9th Prize



ARROW EXIT DEVICE AND MOUNTING KIT

Dennis Harmon, Colorado. For his mini-Mag loading tool tip.

10th Prize



DEWALT CORDLESS DRILL

Jay Christie. For his tip on making security hinges.

11th Prize



DETEX ECL-8010W WETLOCK

M.J. Stratton, Montana. For his under-the-window tool trick.

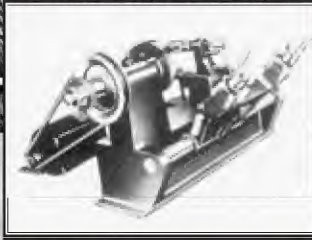
12th Prize



SECURITRON DK-26 TOUCHPAD AND CPU BOARD

Jeff Matteson, California. For his compressed air canister warning.

13th Prize



FOLEY-BELSAW 200 KEY MACHINE

John Marske, California. For his tip on repinning an elevator switch lock.

14th Prize



S&G 6120 ELECTRONIC SAFE LOCK

Glen Hutchinson, Texas. For his safety deposit box drilling aid tip.

15th Prize



ACCU-MARK™ KEY STAMPING MACHINE

Frank Alexander, Florida. For his 8-minute Escort ignition removal tip.

16th Prize



HIGH TECH TOOLS 2500 PRO SET

Charles Eastwood, Louisiana. For his tip on picking a Nova ignition.

17th Prize



SLIDE LOCK'S MASTER "Z" TOOL SET

Gary Keenan, Iowa. For his "rolling" keyboard tip.

18th Prize



ESP PRODUCTS SAMPLER

Rodger Peck, Maryland. For his car opening wedge tip.

19th Prize



BAXTER JV-1 AND JV-5 CODE BOOKS

Rick Miller, Missouri. For his tip on Schlage function conversion.

20th Prize



MAJOR MANUFACTURING'S HIT-111 DRILL GUIDE

Franciso Moro, New York. For his tip on defeating a Medeco or MultiLock rim cylinder.

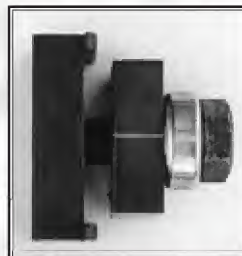
21st Prize



FALLE PICK SET FROM MARK BATES AND ASSOCIATES

Antonio Gomez, New York. For his tip on generating a Nova key.

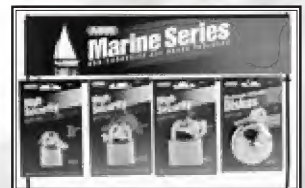
22nd Prize



SIEVEKING SQUEEZE PLAY

Matt Eggleton, CRL, North Carolina. For generating a Nova key.

23rd Prize



ABUS PADLOCK'S MARINE PADLOCK DISPLAY

Gary Watts, England. For his tip on pulling high security padlock cylinders.

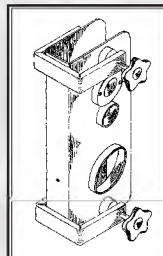
24th Prize



RODAN'S AV 100 HEAVY DUTY ANNUNCIATOR

Adam McKenzie, Alabama. For his PADO rekey trick.

25th Prize



A-1 J-50 INSTALLATION JIG

Tom Karausky, New Jersey. For his Corbin key blank tip.

26th Prize



MAG ENGINEERING SAMPLER

Ray Betemps, Canada. For his tip on securing security screws.

27th Prize



FRAMON IMPRESSIONING HANDLE

Steve Shields, California. For his temporary rekey tip.

28th Prize

The 15 Minute Safe Opening Technique

BY JAKE JAKUBOWSKI

Robert Rilloraza, California. For his tip on using an ACE key to turn a broken combo spline.



**BWD KWIKIT WINNER:
 Another Real
 Saab Story**

A repossessed 1994 Saab 900S was towed to my shop to be opened. I proceeded to try to open the vehicle as recommended in the manuals, but although the button would come up, the car remained locked.

Examining the car carefully, I discovered that the driver's door had the lock plug in the horizontal position rather than vertical. I surmised that this meant the car was deadlocked.

After a few tricks of my own the car remained securely locked so I decided to try picking the cylinder. Using a wide tension wrench and an HPC#13 rake pick, I had the lock in the vertical position in about 45 seconds! Then using conventional opening tools, I was able to open the driver's door in short order.

*Robert Blake
 E-mail*



**WEDGECO™ KEY
 EXTRACTOR KIT WINNER:
 Pulling the Plug
 on I-Cores**

Here's an alternative to drilling Best-style interchangeable cores using a safety deposit box nose puller!

To pull the plug on I-cores, you'll need a nose puller cup assembly with the appropriate bits and screws. Drill the first hole in the center of the keyway deep enough for the screw you are using. Drill the second hole at the shearline as you would normally do.

Run the screw in the hole in the keyway and place the nose puller cup with the body of the cup over the bible, or upper chamber area of the cylinder. Tighten the puller and the plug can be pulled right out of the core leaving a clean, easy to work in hole. Now, use any sharp tool to hook and push the control sleeve lug into the extraction position.

It is important that the solid part of the puller be placed over the upper chamber of the core to prevent the cylinder from being pushed back into the housing. Otherwise, you could easily pull the entire core out of the housing and ruin the housing.

If you're working on a mortise or rim cylinder, use a piece of material the same height as the cylinder face to support the nose puller.

*Edward Dec, CRL
 Virgin Islands*

Jake's Jabber...

Check out the year-end winner's list for 1999! Some really great locksmiths got some really great prizes for sharing their ideas with us last year. You could be one of the lucky ones this year if you will just sit down and put that time saving idea, trick or tip on paper and send it to me. You can e-mail, snail-mail, fax or FedEx your tip to me. If I print it, you'll get some nifty prizes the month in which the tip is printed and you'll be eligible for the year-end drawing for one of the big prizes we'll be giving away in 2001!

I owe you folks an apology because the prize list for 2000 is not really complete and settled as of yet. It's still kinda under construction. That's my fault and when you get your March issue, everything will be in place.

I also have to say I'm sorry that we didn't publish the year-end prize winners until this month. Again, you have to blame me for the gaff. However, I promise, I'll try to do better.

In the meantime, you guys and gals get to writing and see if you can be a bigger winner than you already are.



*by Jake
 Jakubowski*



**STRATTEC RACING
 JACKET WINNER:
 Salvaging Vats Keys**

If you miss-cut either a single or double-sided VATS key, there's a way to salvage it. Simply remove the

resistor pellet from the miss-cut blank and install it in a mechanically correct blank (such as a B-62 or a B-86) after modifying the blank as shown in *Illustration A*.

You can prep the new blank by drilling a small hole and hand-filing it

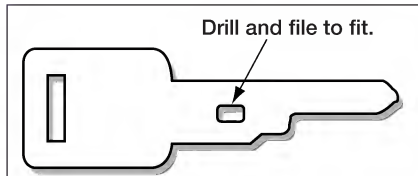


Illustration A.



Photograph 1.

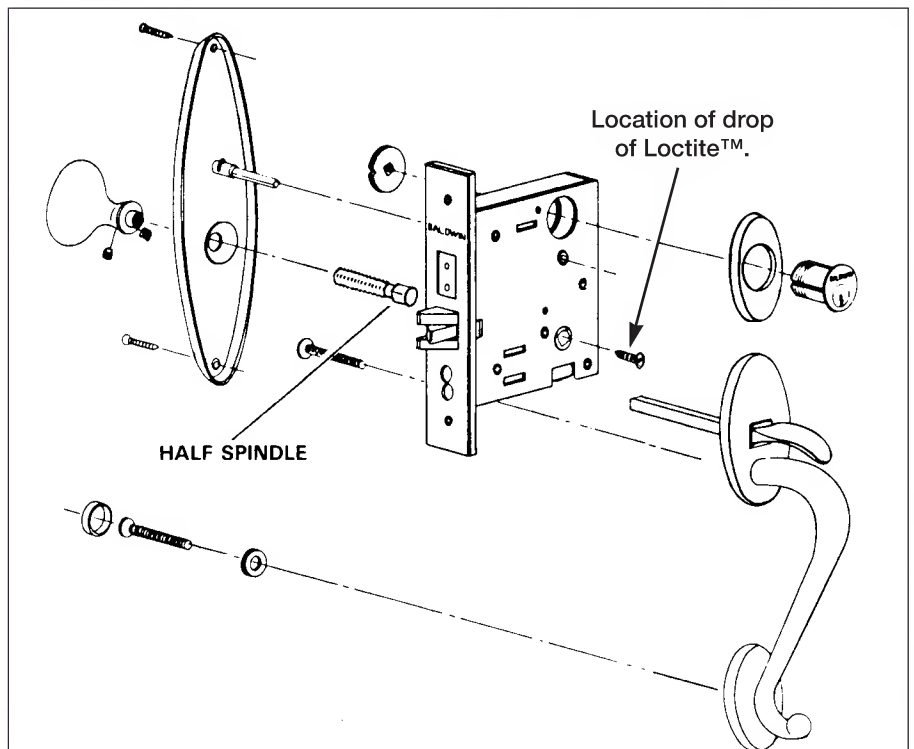


Illustration B.

until the resistor pellet fits snugly in the hole. A drop of SuperGlue will keep the pellet in place. You can determine the drill point by using the miss-cut blank as a template.

*Bill Tolento
Connecticut*

Editor's Note: Bill, thanks for the tip. My concerns center around the alignment of the pellet and the hand-drilled hole you need to place it in. I've seen OEM VATS keys lose their pellets after awhile and wonder if the SuperGlue would be sufficient to prevent this problem in a "home-made" VATS key. In an emergency, you do what you have to do to get the customer back on the road, but under normal circumstances, my personal preference would be to use a new blank. Also, I wonder if it is cost-effective to perform this modification from the standpoint of the time and labor involved as opposed to the cost of a new blank. Regardless, your tip is something to think about.



HPC AIR WEDGE™
WINNER:
**Tubular Lock
Opening Trick**

Here's my method of opening tubular locks that I cannot pick by using a Dremel Tool with a high-quality short bit.

Start by drilling into the face of the lock just outside the center of the plug. (See *photograph 1.*) Once you have drilled in as far as the pins, work your way around the face of the lock until you have removed the material in front of all the pins.

By this time all of the pins should have fallen out of the cylinder, but if they haven't you can easily vibrate them out by gently rapping on the face of the cylinder with a small hammer. If any of the pins refuse to vibrate out, simply drill the entire pin completely out of the plug.

If you haven't damaged the center of the plug, you can insert a blank tubular key and turn the plug, remove the lock and replace it with a new one. I have found that most tubular locks that I have used this technique on can be opened in a couple of minutes.

*Terry Heinrichs
Alaska*



**SARGENT &
GREENLEAF 4400
SERIES SAFE DEPOSIT
BOX LOCK WINNER:**
Making A Code Card

I needed a code card for my HPC1200CMB and did not have time

to order a card from my supplier. I knew that I would need this card in the future and decided to make one that would be as durable as my original cards.

I selected an HPC card that I do not normally use and that had a plain back on it. Next, I removed the clear plastic cover from my 1200 and inserted my Universal Micrometer Card. Following the lock manufacturer's specifications I moved the pointers to the first depth and space that I would need.

I then removed the UMC and inserted the card I had chosen face

down in the 1200. Using a fine-pointed marker, I carefully marked the position of both pointers. I repeated the process for each depth and space that I would need.

After marking the spaces and depths on the back of the card, I entered the proper manufacturer's name, keyway and cutter information. To make certain I did not lose track of the original card, I placed a card shaped piece of paper in the slot where the original card would go and cross-referenced it to the card I had just made.

IC Cores: Small Format



Everything you ever need to know about
how to sell, service, install and
troubleshoot interchangeable cores!

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#ICSF - 1

After completing my new card, I carefully cleaned out the card holder and cleaned and reinstalled the clear plastic cover. The new card worked just fine.

*Michael J. Foty, CPL
Minnesota*

Editors Note: Great tip Michael, however, if you had The National Locksmith InstaCode software, HPC cards could be generated automatically and you would get key codes to boot. What a deal!

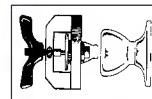


ILCO KEY BLANKS
(100) WINNER:
Baldwin Spindle Fix

I've installed a number of Baldwin Mortise Pitcher Handle entry sets like the one shown in *illustration B*. Frequently the screw that holds the spindle in place will loosen and cause a malfunction of the lock or allow the inside knob to be pulled off of the door.

If you put a drop of Blue Locktite™ on the screw that secures the spindle, you can eliminate the problem and reduce the number of callbacks resulting from the screw loosening.

*Jan Pluto
Pennsylvania*



A-1 SECURITY
PRODUCTS WINNER:
Function Conversion

After unlocking an office door, the customer asked me if there was a way to keep the door from being locked at all. The lock was a Sargent Office/Entry function with the toggle in the face of the lock to lock the outside knob or unlock it. Apparently, someone was tripping the toggle and causing lockouts.

Since I could not remove the toggle and have the lock function properly, I put a small wood screw in the slot in the lock case just behind the toggle. This prevented anyone from activating the toggle to the locked mode, did not damage the lock in any way and would allow the lock to be returned to its original function later.

*Douglas Watson
Oregon*



KEEDEX "SPIN OUT"
WINNER:
Adams Rite Screw Substitute

When servicing the Adams rite 4700 series or MS series locks, I occasionally find it necessary to replace the setscrew that holds the cylinder in place. On occasion I find that I do not have the proper setscrew and have to come up with a workable replacement.

I use a modified mounting screw from a Kwikset 400T knobset. (See *illustration C*.) The screw, after

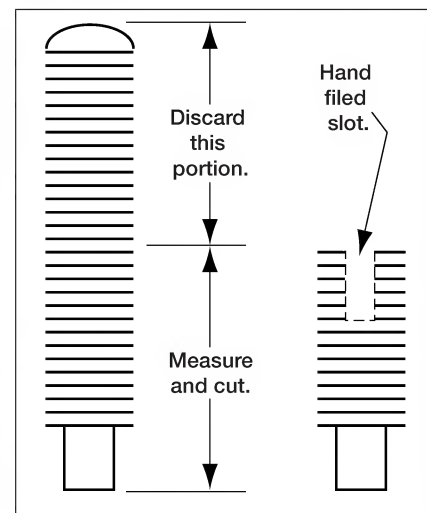


Illustration C.

Flat Rate Manual

The National Locksmith.

Flat Rate Manual *For Locksmiths*

Safe Work • Car Opening • Key Cutting • Rekeying • Installations • Domestic Autos • Code Keys • Duplicate Keys • Masterkey Systems • Conversions • Key-In-Knob Locksets • Imported Autos • Lockouts • Safe Work • Car Opening • Key Cutting • Rekeying • Installations • Domestic Autos • Code Keys • Duplicate Keys • Masterkey Systems • Conversions • Key-In-Knob Locksets • Imported Autos • Lockouts • Safe Work • Car Opening • Key Cutting • Rekeying • Installations • Domestic Autos • Code Keys • Duplicate Keys • Masterkey Systems • Conversions • Key-In-Knob Locksets • Imported Autos • Lockouts • Safe Work • Car Opening • Key Cutting • Rekeying • Installations • Domestic Autos • Code Keys • Duplicate Keys • Masterkey Systems

By James C. Felt, CPL

Now you can easily "Price for Profit!"

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#FRM - 1

modification, works very well since the threads are 8-32 and the tip is smooth and fits perfectly into the valley or groove in the side of the mortise cylinder. I simply measure the needed length from the tip of the screw, cut it off to the desired length and use a needle file to file a slot in the "head" to accommodate a screwdriver as you can see in the illustration.

Just be careful not to tighten the screw too tightly as you can break the screw at the slot. Of course, the screw only needs to be tightened enough to keep the cylinder from turning.

*John Marske
California*



**TECH TRAIN TRAINING
VIDEO WINNER:
Blind Code for
Vehicles**

Whenever I cut a key for a vehicle, I code the code, so to speak. That is: I write a private code on the paperwork or in the owner's manual. For instance: If I originate the keys for a Ford 10-cut, my code might read: I (for ignition) abcde and the door code will read D-abeca.

Translation: 1=a, 2=b, 3=c, 4=d and 5=e for the depths. The spaces are recorded in order.

I have on occasion, had to go out to remake keys for the same vehicle and this coding system has proven invaluable to me.

*John
Michigan*

Editor's Note: John, this is a good idea and similar to one I have been using for years. By using 1=a, etc., it is possible for someone to easily "crack" your code. I recommend selecting a ten-letter word like NIGHTMARES, METHODICAL, BLACKSMITH or any word, or combination of words that equal ten non-repetitive letters. In my first example M=1, I=2, G=3 and so on. If the person reading the code does not know the root word, the code would be more difficult to decipher than an a-b-c-d code. You can also use the blind code idea for recording cylinder key bittings or safe combinations.



**SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
The Perfect Spray
Nozzle**

It's easy to lose the spray nozzle on a small can of WD-40 while in the service truck or on the job. I think I've found the perfect solution to this problem.

I buy a small can of deicer used to thaw frozen locks in the winter (about \$1.50). I remove the red nozzle from the can and place it on my small can of WD-40. I accomplish two things. One, I have a small spray nozzle designed to fit keyways (all I have to do is insert the tip and push to lubricate a lock) and, two: I have a nozzle that will not fall off.

Another benefit is that I can replace the red safety cap over the nozzle when not in use to prevent accidental discharge.

*R.J. Bent
New York*

Major
MANUFACTURING, INC.

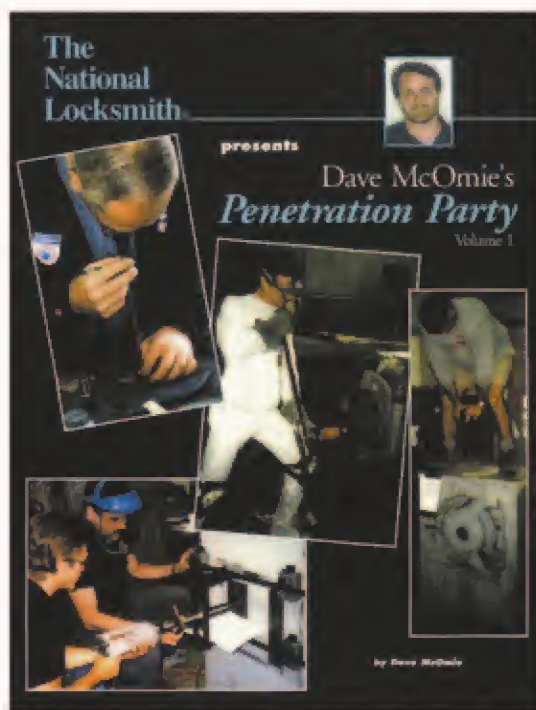
**MAJOR
MANUFACTURING
PRODUCTS
WINNER:**

HPC Air Wedge Opens Garage

The customer had locked herself out of a garage where she had left her keys. She had old Challenger locksets on all her doors and wanted to keep the same key for the garage, which precluded drilling or otherwise destroying the lock.

I tried for quite a while to pick the lock with no success and then tried to figure of a way to open the door without damaging or drilling the plug.

Penetration Party



- Uncensored! • The Safes! • The Tools!
- The Action! • The Perfect Openings!
- The Bloopers and Blunders!
- The Slick Tricks!

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#PP - 1

I got the idea of trying to use my HPC air wedge to separate the door and frame far enough to allow the door to open.

I slid the Air Wedge up from the bottom of the door between the door and the frame. When it was nearly level with the lockset, I began to inflate the Air Wedge. I could see the frame and door begin to separate and continued pumping. Suddenly, there was a loud "POW!" and the door sprung open!

I think this might work on metal doors and frames as well. I know it sure saved the day for me.

*Mark Lyons
California*



**SLIDELOCK'S "Z" TOOL
OPENING SET WINNER:
Kenworth Key
Substitute**

After trying several opening tools, I finally opened a locked 1997 Kenworth with an "S" tool. Knowing that I did not have a KW-specific blank (K1994), I began looking for a substitute.

I found that the Saturn key blank worked well as a substitute for the K1994, made the driver a duplicate

that worked in all his locks and sent him on his way.

I also found that you can substitute an H-65 for an H-76 (Mercury Tracer) in a pinch.

*Eric Bowser
Maryland*

Editor's Note: Eric, the next time you have to open a late-model Kenworth, try picking the door lock. My experience has been that they pick easily and picking saves you the hassle of trying to climb up the side of the cab and work your tools one-handed, or using a stepladder.



**THE SIEVEKING AUTO
KEY GUIDE WINNER:
Reflective Tape Tip**

My eyes don't work quite as well as they used to and at night I have trouble getting the business end of my under-the-window tool lined up with the lock/unlock button.

I solved this problem by putting a small strip of red reflective tape on the tip of my tool so I can see its position more easily in the beam of my flashlight. When I encounter a door that also has a reflective element on the lock/unlock button it's just a matter of connecting the dots!

*Rob Jenner
California*



**JET KEY BLANKS
(100) WINNER:
Russwin Spring
Retainer from
Medeco Driver**

I ordered a Russwin padlock in a rather obscure keyway and as I was keying it for the customer, everything went fine until I tapped the last spring retaining plug into the side of the padlock. It came out just as quickly as it went in and flew into some dark recess in my van.

Knowing I would never find the original plug, I searched for a

substitute and selected a Medeco driver. After modifying the driver (see illustration D) with my Dremel Tool, I tapped it into the chamber opening - where it stayed- and sanded the plugs down smooth.

*Pete Gable
North Carolina*

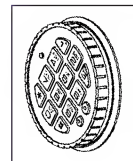


**HIGH TECH
TOOLS WINNER:
Honda Blank For
Tool Box**

A customer's key to the Stall Toolboxes on his truck was badly worn and broken. The blank was double sided and carried the code K312. None of my books carried a K code with that high a number and none of them showed me a similar key.

The customer wanted the compartment doors opened and a new key so I began to look through my key blank inventory to see if I could find a match. I matched the Stall OEM blank to an HD108 (X252) and after originating a new key, found that the HD108 worked fine. In fact I think the HD108 is a stronger blank than the Stall original.

*Daniel Stacey
New York*



**LAGARD COMBO
GUARD WINNER:
Dollar Bill is
Combination Source**

Whenever I do a combination change on a safe for a customer, I ask them for a dollar bill. I use the serial number off the bill for the new combination and tell the customer to keep the bill and not spend it.

For instance, if the serial number on the customer's bill is J 75353782 M, I would use the following for a standard 3-wheel combination: 75-53-82. You can read the numbers backward, forwards or skip numbers to determine the combo for that particular safe. Just make sure you don't use any numbers that would fall into the forbidden zone.

Some customers have told me they have even gone so far as to frame the bill and hang it over their safe so their combo would be handy at all times.

*Jerry Dionisio
Colorado*

TNL

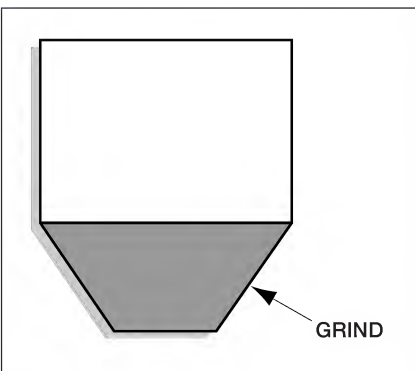


Illustration D.

Diary Of A Safeman

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#DIARY



1

The R1100R model is BMW's answer to the increasingly popular "naked" motorcycle look. The absence of a fairing makes this a relatively easy motorcycle for the locksmith to work on. Naked is good. Originating a key to this bike can be reasonably fast and easy with an understanding of the locks. There are no codes anywhere on this motorcycle. The key code is on a plastic tag supplied with the keys when the motorcycle is bought new.



2

The seat lock is located on the left side of the motorcycle above the passenger foot peg. I was not able to pick this lock so pulling the plug is an alternative way to go, although you can read or impression it if you have the skills.

3

Insert a hook tool 7/8 inch (22.23mm) into the keyway and pull the retainer down. You can then pull the plug out the front of the lock.



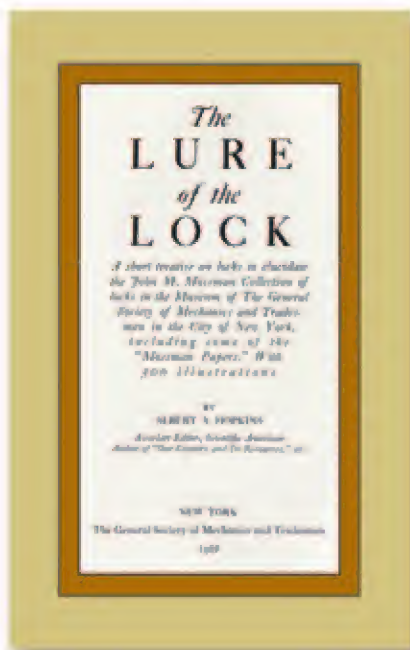
1997 BMW R1100R



4

A standard hook pick does not enter the lower retainer chamber far enough to pull the retainer all the way into the plug for removal. I used a hook dental pick and put a mark 7/8-inch from the tip. Insert the pick into the keyway until the mark is even with the face of the plug. You can then push the retainer down far enough into its lower chamber to allow the plug to be removed. The pick also hooks inside the chamber and is used to pull the plug out. The plug contains wafer tumblers in spaces 1 to 6 on opposing sides of the keyway.

by
John Blankenship



The Lure of the Lock

This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.

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#LURE



5

The wafers are numbered per depth but the numbers face the back of the lock so you cannot see them by looking into the keyway.

The wafers are easily removed with your fingers. The grease in the lock does a good job of keeping them from falling out but be careful not to dump them accidentally. The numbers on the wafers will give you the first 6 cuts of 8 that are in the ignition lock. Cut these 6 cuts on both sides of an X59 blank and it will operate the seat, gas cap, and helmet locks. You can determine cuts 7 and 8 by progression, reading, or impressing the ignition lock. Only 3 depths are used so there are only 9 possible combinations for progressing cuts 7 and 8. 1st key: 11, 12, 13, 23, 33. 2nd key: 21, 31, 32. 3rd key: 22.

6

If you have the key or if you are able to pick the lock you can remove the plug the easy way. Turn the plug clockwise 90 degrees against spring pressure and hold it there. Lift the front section of the seat off the motorcycle and then allow the plug to return to the locked position. You can now lift the rear section of the seat off the motorcycle.



You can now see the retainer poke hole that the punch is about to enter.

7



8

With the plug in the locked position, push the retainer into the plug and pull the plug out the front of the lock. This can be done with or without the key. You can now originate a key or rekey it. The seat, gas cap, and helmet locks use the ASP A-13-101 keying kit which is also used by '75-'84 BMW automobiles that take the X59 blank.





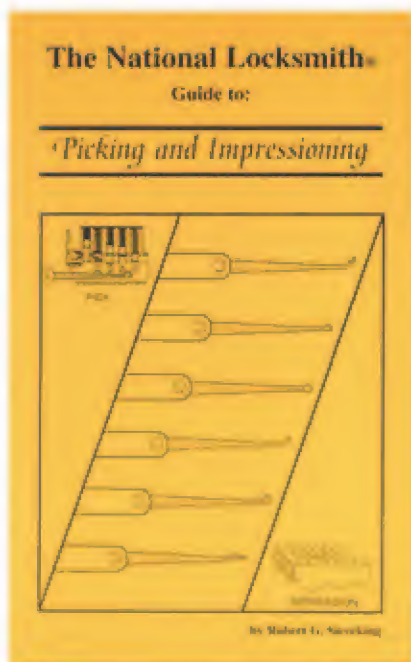
9

The gas cap lock is located on top of the gas tank between the seat and handlebars. It is another good source for the first 6 cuts. The plug can be pulled out just like the seat lock only the retainer is 2-1/32 inch (16.57mm) into the keyway. Use the pick to pull the retainer toward the rear of the motorcycle to remove the plug. This is the only lock on the bike that I was able to pick due to the loose fit of the plug, although it wasn't easy. Pick the lock or use the key to turn the plug 90 degrees counterclockwise to unlock the gas cap. You are picking against spring pressure so have a small screwdriver ready to finish turning the plug. The plug will return to the locked position when released.



10

Raise the gas cap and lay a rag over the filler neck to prevent the 3 Phillips screws from dropping into the gas tank when you remove them.



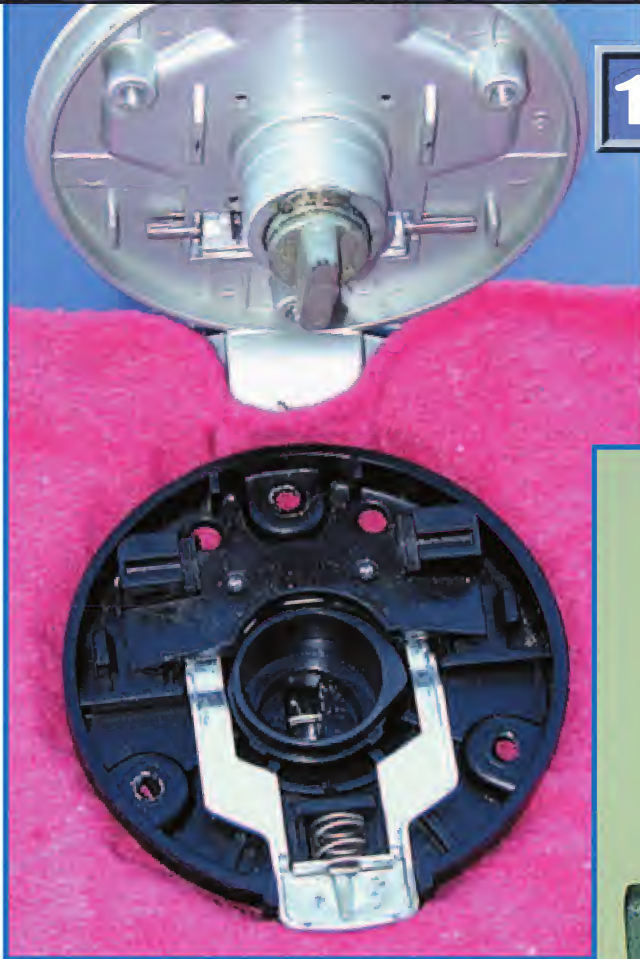
Picking & Impressioning

Here is the most complete book ever published on picking and impressioning locks! You will have everything you need to know about how to open almost every kind of lock that can be picked.

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#PI



11

Remove the 3 Phillips screws and the lower section of the gas cap. Lay the lower section on the rag over the filler neck for safe storage. You can now see the retaining wafer on top of the plug. Depress the retainer and push the plug out the front of the lock.

The gas cap plug contains wafers in the first 6 spaces on opposing sides of the keyway. The wafers are numbered just like in the seat lock. The original key shows that the cuts are 23312313, which is key code number H32421P. The first 6 cuts that operate the secondary locks are 233123 with spaces 7 and 8 being 1 and 3 and are only used in the ignition lock.

12



13

This key was cut by code on an X59 blank and works all the locks on the motorcycle. The spacing and depths are the same as those used on '75-'84 BMW automobiles using codes of HB1-HB5000 with two exceptions: 1. Only 3 of the 4 depths are used. 2. Only the first 8 of 10 spaces are used. Spaces 9 and 10 on this key are left uncut since they are not used.

The helmet lock is located on the right side of the motorcycle above the foot peg. This lock uses the same plug that the seat lock uses so it can be pulled out using the same method of inserting the pick 7/8 inch into the keyway, pulling the retainer down into the plug, and pulling it out. This lock also contains wafers in spaces 1 to 6 on opposing sides of the keyway and the wafers are numbered per depth. To unlock it, turn the plug about 35 degrees counterclockwise either by picking or using the key. The shackle will spring out and the plug will spring back to the locked position when you release it. You can now use a 5mm hex wrench to remove the lock from the motorcycle. You can use a 5mm hex tool with a ball end inserted at an angle to remove the lock without unlocking it but it has to be unlocked before you can disassemble it.

14





15

The helmet lock is shown removed from the mounting plate just above it. Although the mounting plate is threaded for the 5mm hex bolt there is also a 10mm nut (shown removed) that secures a cable and hose guide on the back of the mounting plate. Slightly loosen the 10mm nut and hold it with a wrench while removing the bolt with the hex wrench. The lock can then be removed from the motorcycle.

The back of the helmet lock has two slots (top and bottom) for removing the backing plate.

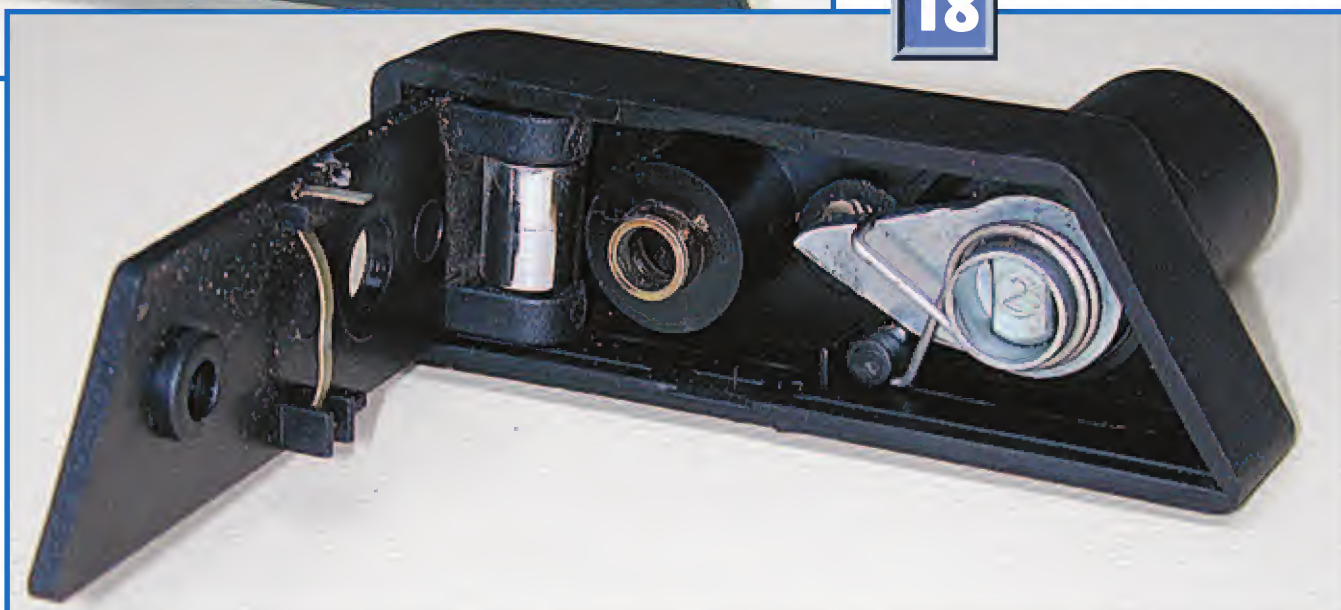
16

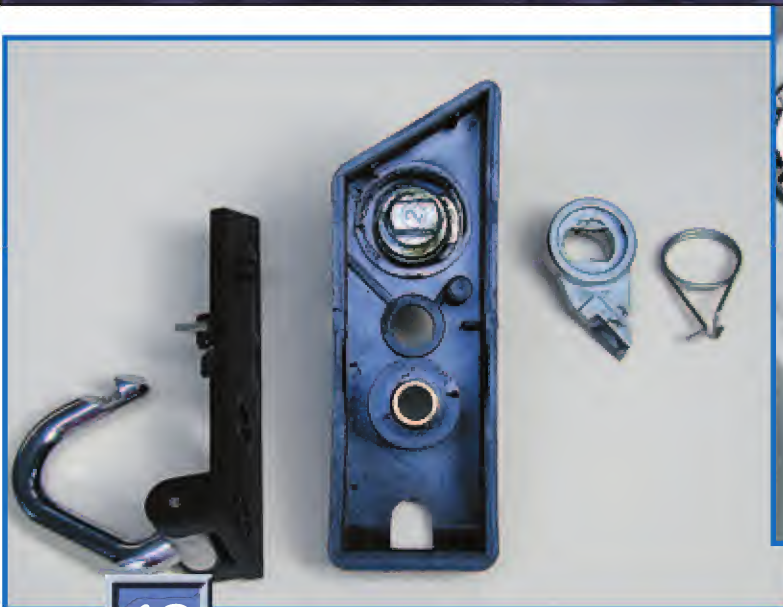


17

A screwdriver is shown prying the backing plate from the lock housing. The shackle must be unlocked in order to do this.

18





19

The helmet lock is shown disassembled which exposes the retaining wafer on the rear of the plug. Depress the retainer and push the plug out the front of the lock. This plug is identical to the seat lock plug shown in photograph 4.



20

The ignition/steering lock is located at the bottom of the instrument panel. The lock is shown in the 'ignition off' position and the steering is unlocked. In order to turn the lock to the OFF (steering locked) position, the handlebars need to be turned to the right or left until the locking bolt aligns with the hole in the frame so it can be extended into it. Turning the lock to the P position turns on the taillight for use when the bike is parked on the roadside at night and you want to be seen.



21

The ignition lock is shown exposed so we can see what needs to be done in order to remove the plug. At first look it appears that the round staked in plate needs to be removed, but that is not the case. I removed it and it secures a detent and spring but has nothing to do with the retainer. A poke hole for the retainer is hidden by the grease that has leaked out of it.

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- Volume 3 - Antique Safes
- Volume 4 - Antique Safes
- Volume 5 - Very Recent Safes

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#SO - 1, SO - 2, SO - 3, SO - 4, SO - 5



22

The punch is shown resting in the bottom of the rectangular poke hole. The ignition has to be turned to the ON position in order to depress the retainer and pull out the plug. We will now go through the steps that will enable us to do that.



23

A 5mm hex wrench is shown in one of the two bolts that need to be removed to remove the headlight. To reinstall the headlight back to its original vertical alignment, place some masking tape on the headlight and mounting bracket. Then put some alignment marks on the tape as shown. There are horizontal adjustment slots in the headlight mounting brackets so it is a good idea to trace around the bolts with a pencil before removing them. You can use these trace marks to reinstall the headlight to its original horizontal alignment.



24

Remove the two bolts and allow the headlight to rest on the front fender while hanging from its cable.



25

We are looking up at the ignition lock from where the headlight was mounted. At this point you could probably fashion a tool out of .055 diameter spring wire and depress the retainer to remove the plug. However, it would be awkward and I prefer to use the same 5mm hex wrench that I just used to remove the headlight and remove the two hex bolts that are visible in the upper left and upper right corners of the photo. This will free the instrument panel and allow much better access.



Turn the handlebars all the way to the right and lift up the instrument panel. Then prop up the left rear of the instrument panel; I used a rubber mallet as shown.

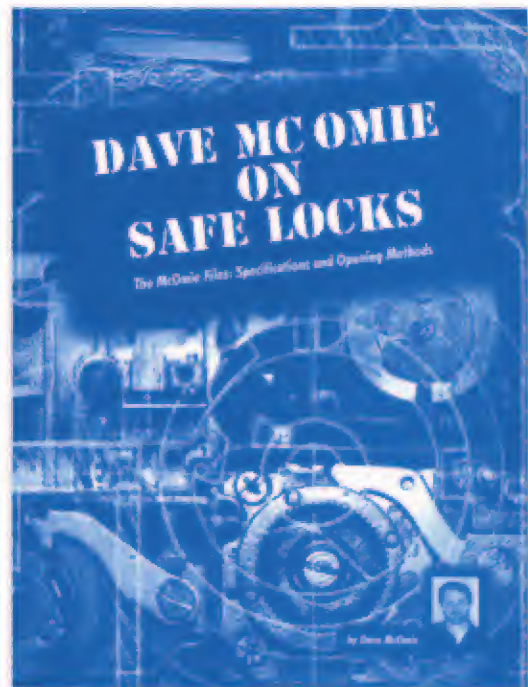


Now you can use an L shaped tool to enter the retainer poke hole as shown. The ignition needs to be in the ON position in order to depress the retainer.



After depressing the retainer the plug can be pulled out as shown. You can use a large screwdriver to turn the ignition off and save the battery while you work on the plug. Just remember to turn it back on before reinserting the plug.

Dave McOmie on Safe Locks



Almost 300 pages of information, photographs and illustrations give you every scrap of information about a huge variety of safe locks.

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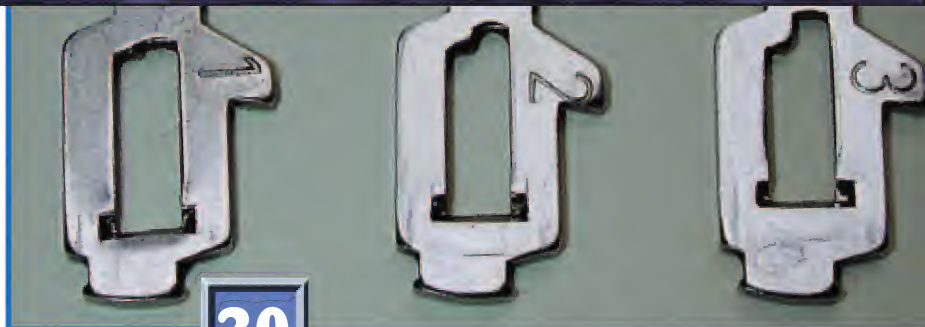
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February 2000 • 91



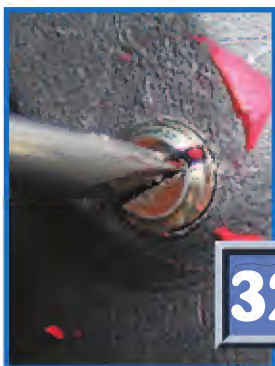
29

The ignition plug is removed showing all 8 wafer tumblers present on opposing sides of the keyway. The retainer and spring are shown removed from the plug. The retainer hole goes all the way through the tail of the plug so it can be removed or inserted from either side. I used a spring-loaded center punch to mark a dimple next to the top of the retainer before I removed it. That way I knew for sure which side of the plug the top of the retainer went on. The grease in the plug does a good job of holding the wafers and retainer in but be careful not to dump them accidentally. The ignition, seat, and helmet locks all use the same plug but the ignition is the only one that has all 8 chambers loaded with tumblers and uses a pin retainer.



30

The ignition uses different wafer tumblers than the other locks on the bike. They are numbered per depth and I am unable to find a keying kit with wafers like this. However, you can buy service kits for the locks on this bike that include the plug, retainer, springs, and enough wafers to key the lock to any code. They are available from the parts department of BMW motorcycle dealers. The part numbers and prices are as follows:
Ignition Lock: 51252337268 - \$16.95
Gas Cap Lock: 51252337269 - \$16.95
Seat Lock: 51252337270 - \$23.95
HELMET LOCK: Same as seat lock.



31

If you need to remove the ignition/steering lock housing from the motorcycle due to theft damage or for whatever reason, begin by removing the white plastic switch from the back of the housing. You can see a glob of dried red substance on the side of the lock housing. Scrape it off.

32

Under the red stuff is a tiny screw. Use a jeweler's screwdriver to remove it and the switch can easily be pulled out the back of the housing.



33

The lock housing is held on with two tamper-resistant bolts. They are made of hard metal and are installed really tight. They are the hardest ones to remove I have ever encountered. Neither a spring-loaded center punch nor a hammer and punch would budge them. Use a sharp drill bit designed for hard metal and then use an adequate sized broken bolt extractor to remove them. According to the BMW motorcycle parts person this lock housing is called the Steering Lock, part number 51252313286 and only costs \$19.95. They also have the Steering Lock with Key Code, 51252313287 for \$62.75. This motorcycle was equipped with optional mounting brackets for luggage but the luggage was not on the motorcycle when I worked on it. The luggage locks use the X59 blank and also use the same wafers as the seat, gas cap, and helmet locks. The luggage locks need to be rekeyed in order to have a one key motorcycle and sometimes the dealer has already rekeyed them. The plug has a retaining wafer that you depress through a poke hole in order to remove it. For more information and photos on this go to <http://www.znet.com/~hays/rekey.html>



Codes: H12353P-H53425P
Blank: Ilco X59 (BMW2), Silca BW7
Spacing: 1=106, 2=189, 3=272, 4=354,
5=437, 6=520, 7=602, 8=685
Depths: 1=.327, 2=.303, 3=.280
HPC Card Number: XF33
ITL Number: 62

Tumbler Locations: 1 2 3 4 5 6 7 8
Ignition X X X X X X X X
Gas Cap X X X X X X
Seat X X X X X X
Helmet X X X X X X

TNL

Quick Entry

UPDATE

by
Steve
Young



2000 CADILLAC DEVILLE DTS

The 1997 Cadillac Sedan DeVille was the first American made vehicle to be equipped with side-impact airbags. The airbag modules, sensors and wiring were mounted inside of the door where it could possibly be damaged by car opening tools. The danger was not that a car-opening tool might cause the airbag to deploy, but that a wire might be disconnected which would prevent the airbag from deploying in an accident. Fortunately, the airbags were only in the front doors, and the vehicle could be unlocked through the rear door without any real problem.

The 2000 Cadillac Sedan DeVille is the first American made vehicle to be equipped with side impact airbags for both the front and rear seat passengers. (See *photograph 1.*) Fortunately for us, GM decided to mount the airbag modules in the seat backs rather than into the doors. This eliminates potential problems from car opening tools and greatly reduces labor costs for any service that might need to be done to the door.

In addition, in keeping with the latest trend, only the driver's side door is equipped with a lock cylinder, so that is the only door that you should ever have to take apart on the new DeVille.

One extremely nice thing that I noticed on the new DeVille was that a rigid plastic panel has replaced the traditional thin plastic sheet moisture barrier. This rigid panel effectively separates all of the wiring from the inside of the door cavity. (See *photograph 2.*) It should be almost impossible to damage any wiring on this vehicle with a car-opening tool.

There is one thing about this car that is going to confuse a lot of



1. 2000 Cadillac Sedan DeVille.



2. The rigid black plastic moisture barrier prevents accidental damage to the wiring harness.

locksmiths who depend on being able to identify a vehicle by reading the nameplate on the car. Nowhere on the exterior of this car does it actually say "Sedan DeVille" or "DeVille". The only indication as to the model is the "DTS" on the trunk lid.

The easiest way that we found to unlock the new DeVille was through

the rear door. The procedure is simple and you won't even need to use an inspection light. You will be using the TT-1019 tool for the opening. (See *illustration A.*)

Begin by wedging open a gap at the base of the main window on the rear door. Insert the tool as far to the rear of the door as possible. Before



3. The TT-1001 tool is inserted to the same depth as the outside door handle.



4. Twisting the tool will bind the linkage rod so that it can be moved forward.

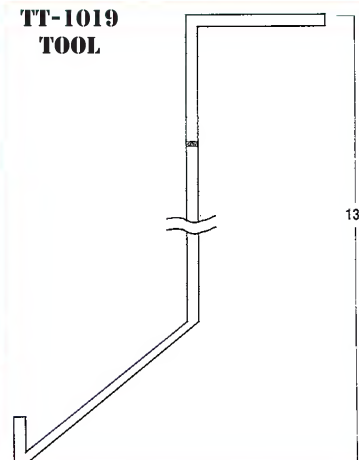


5. Lever the linkage rod toward the front of the car to unlock the door.

Quick Reference Guide

Vehicle: 2000 Cadillac Sedan DeVille DTS	Security System: PassKey III (Transponder)
Direction Of Turn: Clockwise (Driver's side)	Lock Manufacturer: Huf
Tool: TT-1001 (rear door)	Code Series: H0001-H3988
Lock System: 10-Cut GM, Sidebar Ignition and plate tumbler (wafer) style door locks	Key Blank: Iico B99-PT5, Jet B99-PHT

TT-1019 TOOL



A. TT-1019 opening tool.

inserting the opening tool into the door, compare the length of the tool to the position of the outside door handle so that you can tell when the end of the tool is at the same level as the handle inside the door. (See photograph 3.)

Insert the tool into the door as far to the rear as possible and then lower it until the tip is at least as deep as the outside door handle. Rotate the tool so that the hook is pointed toward the inside of the car and then pull up on the tool until it stops. At this point the tool should be hooked around the inside lock control linkage rod. (See photograph 4.)

Twist the handle of the tool to bind the linkage then lever the linkage rod forward to unlock the door. (See photograph 5.) If you have trouble locating the linkage rod, an inspection light can be inserted into the door and the linkage rod can easily be located visually. **RL**

The LaGard LG BASIC



by
Dale W. Libby, CMS

I recently saw an advertisement featuring the new LaGard "LG BASIC" lock #3802, that caught my attention. When I read the blurb about it being a non-handed swingbolt lock, I knew what LaGard had done. I applaud their innovative design and cost reduction on this product.

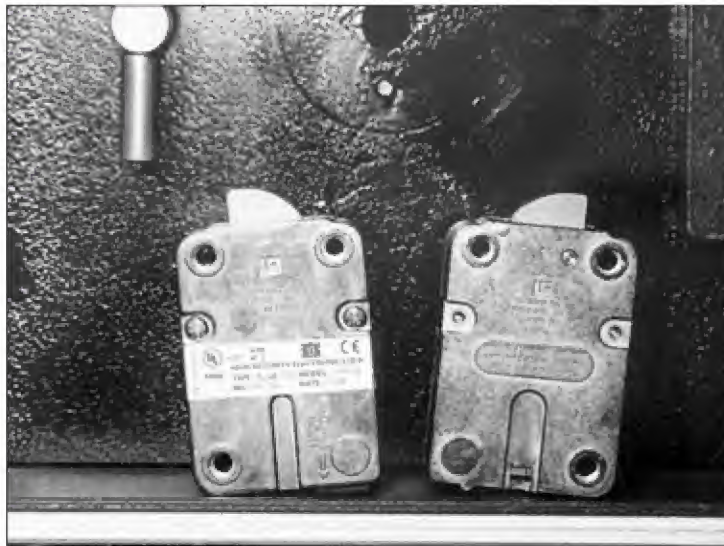
The lock itself is non-handed or dual handed. It means the exact same thing in this case. If the lock does not fit the function of the safe you are retrofitting, just turn the lock upside down and install. Yes, the lock can be handed by just turning or flipping it over and mounting it to the safe door. The lock is much more economical than other swingbolt locks, and features 1 master combination and one user 6-digit combination.

Photograph 1, shows two LaGard 3802 combination locks. There are two sets of cover screws to accommodate relockers on each side. The lock can truly be installed with either side up, with no security lost. Determining how the lock is handed is quite easy. It can be determined by the "cable channel" or the cutout in the case of the lock for the cable to be run when installing.

If you look at photograph 1, the lock on the left has a narrow channel down the center. The lock on the right has a wider channel. Start from the center of the spindle/cable hole and look at the wire going into the lock. If it threads to the right, the lock is mounted Horizontal Left. Whatever direction the cable disappears in the spindle hole, the bolt is the opposite.

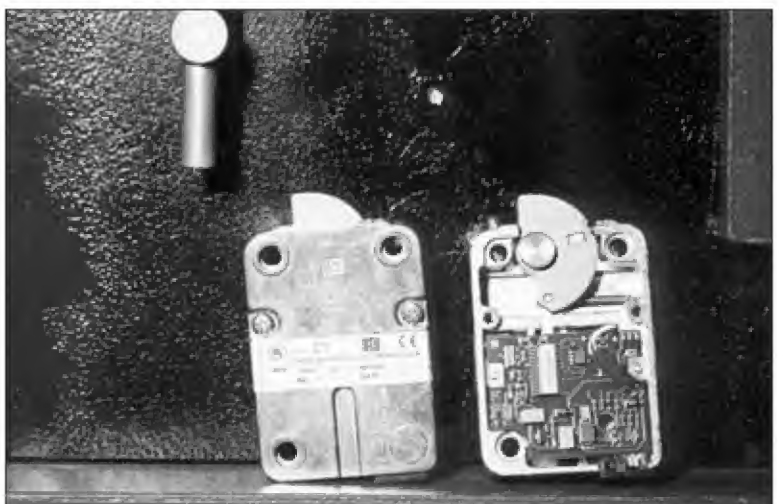
Also, by the width of the cable channel, we can determine the position of the flat of the locking bolt. This is necessary to know when

drilling because the flat is the side of the lock that we have to drill to open this unit. For the narrow channel the flat is on the left side of the bolt or (counter-clockwise). Likewise, if the channel is wide, then the flat is on the right or clockwise to the end of the bolt. The photograph makes it much clearer.

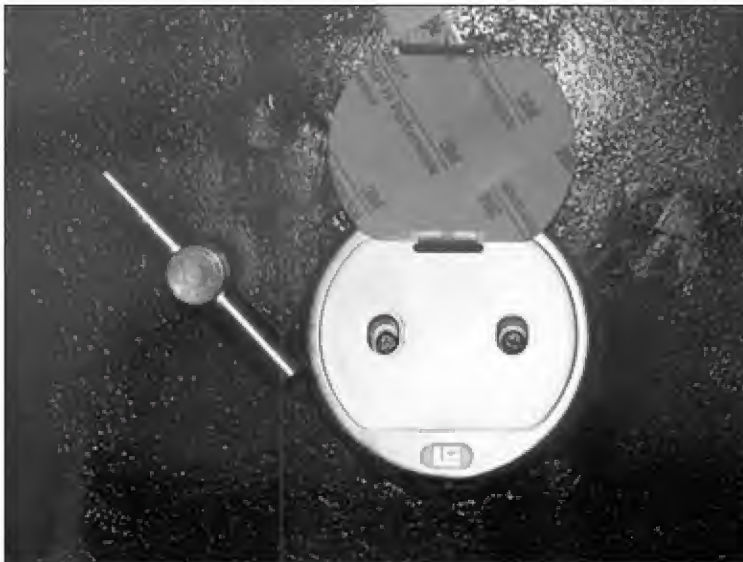
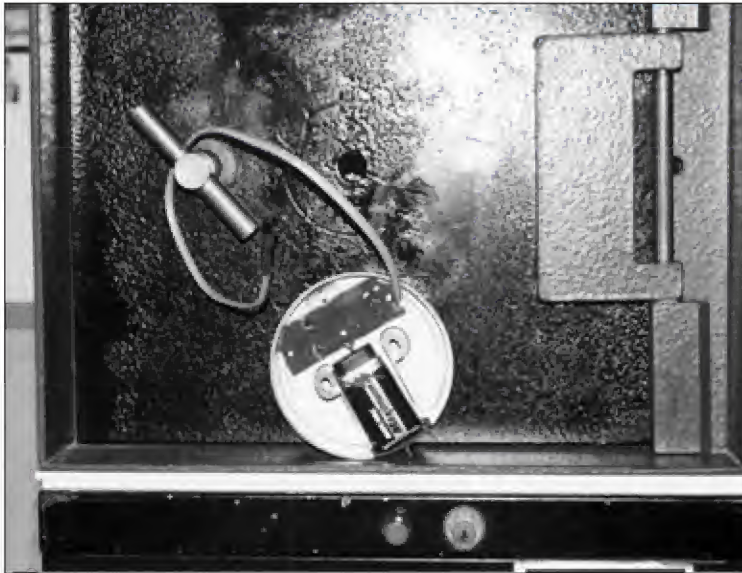


1. Two LaGard Basic locks. Note cable channel is narrow on left lock and wide on right lock. This will indicate the orientation of lock and the flat side of the bolt.

2. Cover removed on lock to show position of blocking bolt. It is in line with the cover screws and 1/4" off center of the lock towards the flat side of the bolt.



3. Back of the keypad showing the position of the 9-volt battery when installed.



4. Keypad installed with two new mounting holes. Note back of keypad and paper to be removed to expose adhesive.

5. LaGard Basic lock installed VD. Wires are routed through small 1" angle bracket to keep them away from moving parts.



Dale's law of swingbolt locks #3, is when a safe has a swingbolt lock installed in either the Vertical Up (VU) or Vertical Down (VD) position (by observing the cable channel), then the flat will be to the opening side (opposite the hinge side) of the door. I have never seen it mounted otherwise. Again knowing the flat position will determine the drilling position for the solenoid end and the bolt end.

Photograph 2, shows two LaGard LG Basic locks, one with the cover on and the other with the cover off. The lock on the right clearly shows the position of the non-handed solenoid below the flat part of the bolt. Measurements for drilling the solenoid is 1-1/8" from the cable hole toward the bolt, with a 1/4" offset towards the flat side of the bolt. At this point, you will drill the solenoid end off and allow the handle to open the lock. These locks can only be used on safes with an opening handle since the handle cam is what retracts the bolt.

The new lock only uses one 9-volt alkaline battery instead of two. It can be changed easily without removing the dial. There is a plastic plug at the bottom of the lock that must be snapped out to allow access to the battery. The battery cap is much better and stronger than in previous models. (*See photograph 3.*)

Before getting into the programming of this simple to use lock, I will touch on the retrofit issues. You will have to do some drilling and tapping to retrofit this lock. The keypad of this lock angles up which makes it more user friendly, however the cable from the keypad to the door is moved up, hence the lock has to be moved down. There is a non-scale template included with the lock with strange measurements.

The mounting holes at 3:00 and at 9:00 must be mounted .67 inches down from the center of the spindle hole. Their distance must be 1.624 inches between these holes. Who has a ruler that measures in thousandths of inches? Come on LaGard, you could have given realistic measurements that normal people understand.

If you have a regular dial mounting with screws at 12:00 and 6:00, then the measurements are easy. The regular

6. The LaGard basic keypad is angled up, making it easier to read. Note also that there are four numbers across, instead of the usual three.



mounting screw should be about 1-1/16" down from the center of the spindle hole. Make a line at this point to the left and right, and measure 13/16" both ways and center punch these marks.

Now, drill and tap the hole for 8/32" screws. Use a #29 drill bit. It is slightly larger than a 1/8" drill. Using the right size drill bit makes tapping much easier, and will save on broken taps.

There are slots in the dial ring that allow for adjustment once the dial is installed. Refer to photograph 4. Here we see the LaGard dial and two screws installed below the centerline of the door. This is again so that the cable can pass through the spindle hole and does not interfere with the battery.

Again, in *photograph 4*, there is a flap above the lock. This is the keypad with a paper backing. Once the keypad is totally installed, the paper backing is removed and the number plate is fastened to the body of the keypad. After sticking this pad on the face of the lock, it is not removable except with force, which will destroy it.

The lock body will install in the regular footprint of a Group I or II lock, using only three screws. Although there are two places to plug in the keypads 4-pin connector, only one has wires. That is the right terminal. Push the plastic connector and insert the end of the cable. When the black plastic spring-loaded connector goes back into position, the cable is locked into position.

102 • The National Locksmith

Photograph 5, shows the lock mounted VD on my "fit all" Annon safe door. I use a little 1" "L" bracket to keep the cable from being hit when the bolt work of the safe is used. Along with a plastic cable tie, this makes sure no moving part touches the excess cable. The lock is in the unlocked position allowing maximum movement of the bolt.

Photograph 6, shows the finished installation after the 3M paper had been removed and the keypad number plate is stuck to the dial itself. Notice that it angles up. This makes customers happy.

Programming this lock is much simpler than other electronic locks with their "Master Codes" that once invoked, cannot be changed. The lock comes from the factory with the standard 1-2-3-4-5-6 combination. It takes less than a minute to change it to a single combination or master combination number. Use the 0-1-2 Mnemonic.

Changing a Combination:

- Enter 6 zeros
 - Enter the old combination once,
 - Enter the new combination twice.
- It is changed.

There will be two beeps every time you enter something correctly when changing the combination. If you mess up, then the old combination will still work, and you can try it again.

Add a User:

- Enter manager combination and hold down the last digit of the combination until the lock signals with two double beeps.
- Press 1. Lock signals twice.

- Enter user combination twice. The lock will signal twice after each valid entry.

Disable a User:

- Enter manager combination and hold down the last digit of the combination until the lock signals with two double beeps.
- Press 2. Lock signals once.
- User is temporarily disabled.

Reinstate Disabled User:

- Enter manager combination and hold down last digit of the combination until the lock signals with two double beeps.
- Press 1. Lock signals once.
- User is reinstated.

Remove User:

- Enter manager combination and hold down last digit of combination until the lock signals with two double beeps.
- Press 3. Lock signals once.
- User is permanently removed.

A feature of this lock that I needed to get used to is the placement of numbers on the keypad. I was used to three numbers in a row, but this pad has four numbers across in each row. Also, unlike other locks, the number button does not have to be pushed to activate the combination. There are only 6 numbers to press, and if they are correct, the lock will open. Four wrong tries will cause a lockout for five minutes.

There are audible beeps and also a low battery warning series of beeps when the lock is being used and the battery is low. I like this lock. The templates for the electronic lock from StrongArm will work on this electronic swingbolt lock as well.

For more information on the LaGard LG Basic call: (310) 325-5670, Fax: (310) 325-5615, E-mail: Papa@LAGARD.com, Web: www.LAGARD.com or circle 284 on Rapid Reply.

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At the touch of a button, installation instructions, product specifications, common applications, or just recommend a strike to a customer, is quickly made available.

The CD, which will be released along with HES' new web site, www.hesinnovations.com or www.electricstrikes.com is free.

Monaco Lock Company's New VP of Sales

Monaco Lock Company has appointed Nancy Juskey as Vice President of Sales. Nancy has been with the company since 1981 and has worked closely with many customers across the country. While still dealing

with customers, Nancy will oversee the whole of the sales department including but not limited to office, warehouse and shipping areas of the company.

BARAN/TEC Appoints National Sales Manager

Alan Glasser has joined BARAN/TEC, Inc. as the National Sales Manager, Access Control Products. The recent announcement is further indication of BARAN/TEC's aggressive marketing of their innovative EVERSWITCH (piezo-based products to the access control and security industry.

For more information contact: BARAN/TEC, Plaza 777 Passaic Avenue, Clifton, NJ 07012. Telephone (973) 779-8774; Fax (973) 779-8768; Web: www.BARANTEC.com.

MARKS USA Acquires Assets of Almet, Inc.

MARKS USA has acquired the tools and dies for the entire product line of locksets from the former Almet Inc. Initially, MARKS intends to manufacture the Almet #1000 line of pressure cast tubular lever handle locksets in passage and privacy functions in various finishes. In addition, certain mortise lock trim will be produced and added to the MARKS USA line of locksets.

For further information phone: (516) 225-5400; Fax (516) 225-6136 or E-mail nancy@marksusa.com.

DoorKing Receives Prestigious Award

DoorKing is proud to announce that the company has been selected as a

recipient of the 1998 Frost & Sullivan Market Engineering Award. The Market Engineering Marketing Strategy Award was presented to DoorKing for its excellent relationship with the dealers that keep it ahead of its competitors and for concentrating on availability and quality in its products that makes it the preferred company with dealers.

Curtis Industries, Inc. Appointment

Mark D. Knight has been appointed director product marketing of the Mayfield Heights, Ohio automotive and industrial distributor of maintenance, repair and operating supplies; security products and value added services. Knight has been with Curtis since 1986 and has held a number of positions within the organization.

Padlocks4Less New Web Site

Padlocks4Less now has an e-commerce web site, www.padlocks4less.com. Padlocks4Less offers quality solid brass padlocks, combined padlocks, CCL Prestoloks, Sesamee Padlocks, luggage locks, Gun trigger locks and combined cabinet cam locks. For more information on how to receive padlocks at discount pricing, you can visit their web site or call Tim Freeman at (206) 972-4557.

Ohio Travel Bag Website Goes Live

Ohio Travel Bag's new website is: www.ohiotravelbag.com. The goal is to provide access for customers' 24 hours a day, 7 day a week, and to find ways to help customers improve their businesses. On the site are several areas to visit such as; New Products Available, Sale Specials, Company

News and an On-line Order Form.

Dalax Lock Hardware Cross-Reference.

The "Lock Hardware Cross-Reference" computer program by Dalax, Inc. may now be seen on their Web Site, www.simon-says.net. Complete details and Windows displays may be seen in the same manner as on a computer. The Web Site also has a demo program that may be easily downloaded.

HES "Top Performer" Award

Hanchett Entry Systems has presented its Leadership Award to Security Lock Distributors, naming them the "Top Performing Account" in the nation, for the second year in a row.

H.E.S. presents the award annually to the customer with the largest sales of electric strikes, accessories and electromagnetic door holders, "in appreciation of their dedication to H.E.S. values of innovation, quality and strong partnership.

For more information call: 800-847-5625; Fax: 800-878-6400; e-mail: info@seclock.com; Web: <http://www.seclock.com>.

Securitron Appoints New Sales Representative

Securitron Magnalock Corporation, has appointed Palmieri Associates, Inc. as its electronic sales representatives in the Greater New York City, Long Island, and Northern New Jersey area, and Summit Sales and Marketing for Kansas, Nebraska, Iowa, Missouri, and Southern Illinois.

For further information contact: Mark Henderson, Phone: (775) 355-5625; Fax: (775) 355-5636.

TNL

OPENING THE Nissan Xterra 2000

by Tony Vigil



The Nissan Xterra SUV.

1



Use the High Tech Tools
Number 30 "V" tool.

2



Get the tip of the tool below
where the door handle lies.

3

The Nissan Xterra SUV, a new model introduced for the year 2000, makes its debut as one of the most popular vehicles on the road right now. (See photograph 1.) That popularity is spurred in part by being named Motor Trend Magazine's car of the year. Its unique design (which somewhat mimics the Land Rover), and relatively low price is an unbeatable combination, promising quick entrance on today's roadways.

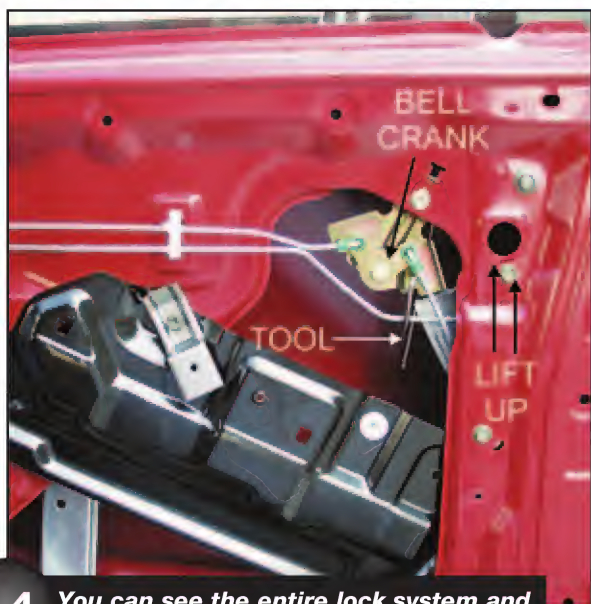
The Xterra is built on the chassis of a Nissan Frontier pickup. It uses most of the same frame, engine and drive train components and also shares door and lock hardware with the less popular pickup.

The Xterra employs a bellcrank locking system, which is quite simple to open once you are aware of the system and how it works. Treating a bellcrank like a horizontal linkage will not always get you the results you are looking for. However, using the opening method most recently developed by High Tech Tools, this opening is a snap. The High Tech manual offers three different opening methods and we will review the first of those.

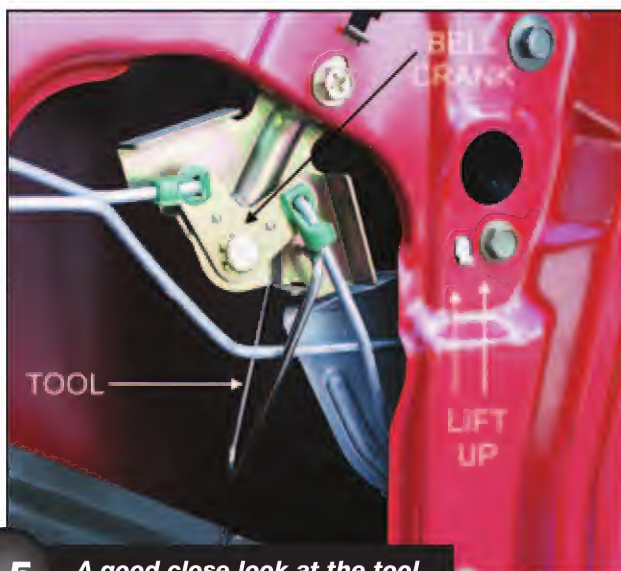
The key to this task, like all others, is to have the right tool for the job. For this demonstration, you will be using the High Tech Tools Number 30 "V" tool. This tool is perfectly proportioned to connect with the bellcrank of this particular vehicle. (See photograph 2.)

Begin, as always, by inserting a strip saver between the window and the weather strip. While the strip saver is nothing more than a thin piece of Lexan used to protect the weather stripping from damage, it can be a profit saver. The last thing you need is some guy who just locked himself out of his own \$30,000 SUV getting mad at you because you damaged his weather stripping.

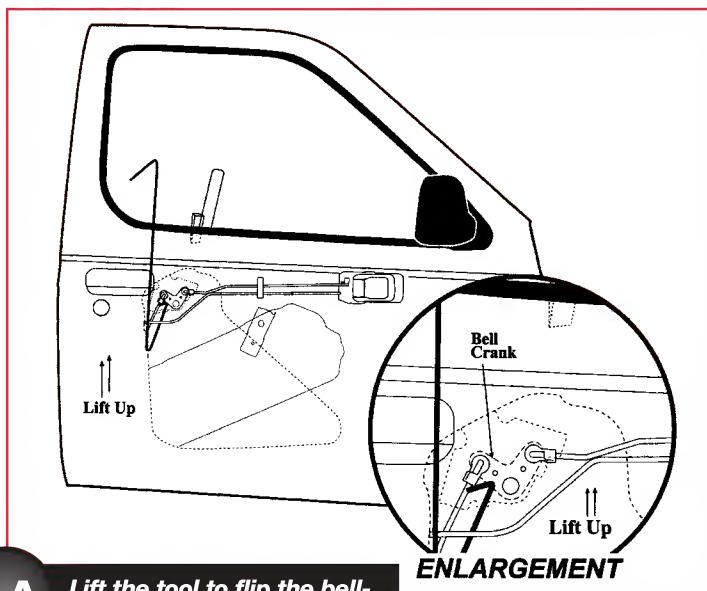
Next, insert the wedge between the strip saver and the window to create an opening for your tool. Lower the tool into the door directly over the door handle and with the tip of the tool facing the front of the vehicle. (See photograph



4 You can see the entire lock system and the central position of the bellcrank.



5 A good close look at the tool tip engaging the bellcrank.



A Lift the tool to flip the bellcrank and unlock the door.

2.) Lower the tool into the door in order to get the tip of the tool below where the door handle lies. See photograph 3, to get an idea of the tool in the working position.

The horizontal linkage on this vehicle is shielded by the inner door frame. The vertical linkage has a metal shield designed to protect it as well. That metal shield also serves as the pivot for the bellcrank. The linkage runs up from the latch mechanism, behind the shield to the bellcrank, which in turn transfers the motion horizontally to the door lock button. As such, once the tip of the tool is lowered below the bellcrank, turn the tool handle towards you so that the tip of the tool can engage the bellcrank. Note that when the bellcrank is lifted, the rod moves forward and the door unlocks.

In photograph 4, you can see the entire lock system and the central position of the bellcrank, which is our target for this opening. In photograph 5, you get a good look at the tool tip engaging the bellcrank. By lifting the tool, you are able to flip the bellcrank and unlock the door. (See illustration A.) Again, understanding the lock system makes unlocking the door a lot easier.

Important Note: This vehicle does not have side air bags. **TNL**

InstaCode



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KEY CODES

New GM HUF Series H0001-H3988, Part 2

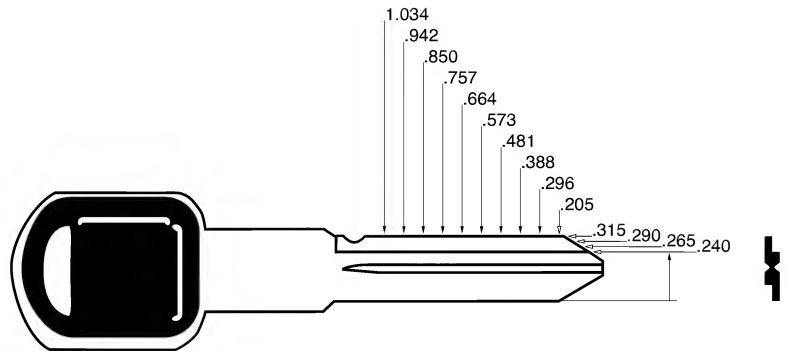
General Motors is introducing a new 10-cut code series for the year 2000 vehicles. The code series is being split between three lock manufacturers:

Huf, Ortec and Strattec. The letter prefix designation of the code will determine which manufacturer produced the lock. For instance, Huf codes will have an "H" prefix.

Ortec will have an "O" code prefix and Strattec will have an "S" code prefix.

From the information we have gathered, Huf will be supplying locks for the Buick Park Avenue, Catera, Cadillac Seville, Cadillac Eldorado, Cadillac DeVille and the Innovee. Ortec will supply locks for the Buick LeSabre, Oldsmobile 88, Pontiac Bonneville and the Anthem. Strattec will supply codes for all other GM models.

All previous 10-cut key blank and spacing and depth information remains the same. The only thing new is the code series.



As with the original 10-cut code series, this is a very large series addition. The portion of the code series we are presenting here is the HUF series identified by the letter "H" prefix. The Strattec "S" prefix series and Ortec "O" prefix series was previously published.

Manufacturer: Huf for General Motors

Code Series: H0001-H3988

Key Blanks:

BWD: M95DB or M95DBL

Curtis: B-82 or B-86

Ilco: P1102

Ilco EZ: B82

Jet: B82 or B82NP

Silca: GM39

Strattec: 597500 (88 & 75 Grove)

1 - 1.034

2 - .942

3 - .850

4 - .757

5 - .664

6 - .573

7 - .481

8 - .388

9 - .296

10 - .205

Depths:

1 = .315

2 = .290

3 = .265

4 = .240

HPC 1200CMB

Code Card: CF215

Jaw: A

Cutter: CW-1011

Gauge From: Tip

HPC 1200PCH (Punch):

PCH Card: PF215

Punch: PCH-1011

Jaw: A

Silca UnoCode

Card Number: 567

HPC CodeMax

DSD #: 259

Jaw: A

Cutter: CW-1011

Curtis No. 15 Code

Cutter:

Cam-Set: GM-6

Number of

Cuts: 10

M.A.C.S.: 2

Key

Gauged:

Tip

Center of

First Cut:

1.034

Cut to Cut

Spacings:

.092

Cut Depth

Increment

s: .025

Spacings:

2001 3331213434	2023 3312213424	2045 3312332442	2067 3334234234	2089 3334433242	2111 3322331113
2002 3311224213	2024 3123431132	2046 3313123213	2068 3332442222	2090 3321331234	2112 3333224342
2003 2443233424	2025 2443331234	2047 3331211213	2069 3331243442	2091 3313224342	2113 3313323122
2004 3342244322	2026 3324243334	2048 3342423112	2070 3332132312	2092 3312133342	2114 243324424
2005 3333442344	2027 3323111122	2049 3323124432	2071 2443313342	2093 3344222434	2115 3332234213
2006 3342112123	2028 3321244423	2050 3343112112	2072 3322211342	2094 3311124422	2116 3131133132
2007 3312423122	2029 3113132232	2051 3342132344	2073 3342223312	2095 3323123112	2117 3323312134
2008 3331113224	2030 3113333242	2052 3333242234	2074 3322312432	2096 3333442432	2118 3323443342
2009 3344333242	2031 2431322444	2053 3332213112	2075 3113431124	2097 3321133122	2119 3342213324
2010 3331132344	2032 3343211312	2054 3332422313	2076 3312343422	2098 2434324234	2120 3113133113
2011 3323311322	2033 3323343442	2055 3344243332	2077 3311212242	2099 3333112212	2121 3133132213
2012 3322231234	2034 3343311212	2056 3322423444	2078 3311342332	2100 2431312432	2122 3313243242
2013 3313344423	2035 3342312342	2057 3342333424	2079 3123332442	2101 3324233234	2123 3312213442
2014 3321221342	2036 3334224224	2058 3323113212	2080 3342121122	2102 3331122313	2124 3344233322
2015 3332233442	2037 3332431222	2059 3321313324	2081 3322113242	2103 3342331312	2125 3342442433
2016 3343422313	2038 3333211342	2060 3313212312	2082 3342134342	2104 3313344442	2126 3343224313
2017 3324423223	2039 3311234312	2061 3312113342	2083 2433311334	2105 3333422322	2127 3321342342
2018 3344232334	2040 3323223342	2062 3312323112	2084 3332224442	2106 3313443242	2128 3332431312
2019 3342442232	2041 3343123243	2063 3324334234	2085 3331124334	2107 3312423322	2129 3113113332
2020 3342123432	2042 3123313344	2064 3342234334	2086 3331234222	2108 3311231122	2130 3333121234
2021 3333224213	2043 3322244233	2065 3322333442	2087 3343121224	2109 2443234232	2131 2431324223
2022 3333424324	2044 3313422433	2066 3342322313	2088 3321233112	2110 2443433132	2132 3324244344

New GM HUF Series

H0001-H3988, Part 2

2133 3323111344	2199 2431344222	2265 3321233312	2331 3331111222	2397 3312244442	2463 3322234442
2134 3123234212	2200 3343242244	2266 3334434232	2332 3123132242	2398 3312434213	2464 3333124422
2135 3334422334	2201 3123431244	2267 3133123434	2333 3321343442	2399 3331123234	2465 3113234242
2136 3112333342	2202 2443332422	2268 2431332342	2334 3322321342	2400 3342332342	2466 3133232442
2137 2432334442	2203 2442331332	2269 3324342332	2335 3333221312	2401 3323112242	2467 3332134312
2138 3312433112	2204 2434332424	2270 3131133312	2336 3311243242	2402 3342423444	2468 3331121322
2139 3311234422	2205 3333112342	2271 3342344442	2337 2431311222	2403 3342113112	2469 3323213312
2140 3343311344	2206 3333243242	2272 3113432442	2338 3311333242	2404 3133133222	2470 3323422132
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2142 3342432312	2208 3323312223	2274 3321134242	2340 3342334434	2406 2432312242	2472 3313112432
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2148 3323323112	2214 3313221312	2280 2433312342	2346 3331232312	2412 3313122224	2478 333124432
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New GM HUF Series H0001-H3988, Part 2

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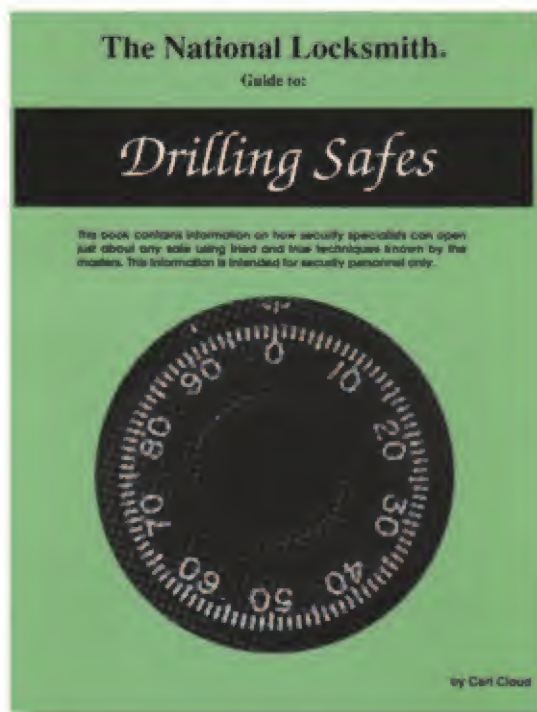
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2705 3331131222
2706 3311113423
2707 2443133234
2708 3342231123

Drilling Safes



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2710 2434334442
2711 3312331324
2712 3324422233
2713 3344224323
2714 3331121234
2715 3323213242
2716 3322123124
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2719 3332134442
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2894 2234342322



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February 2000 • 127

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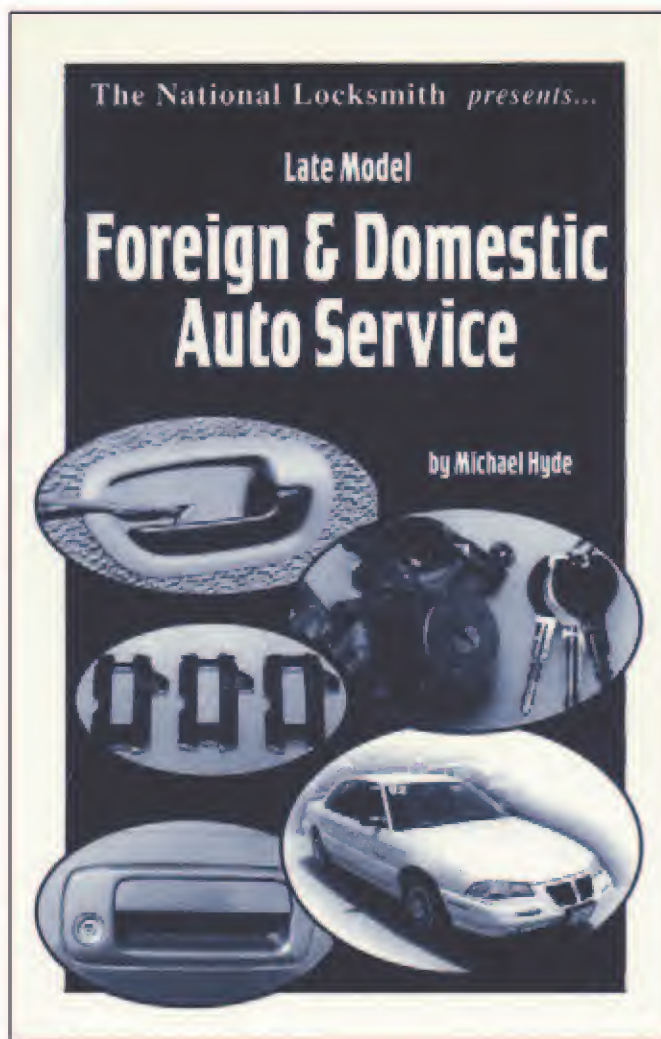
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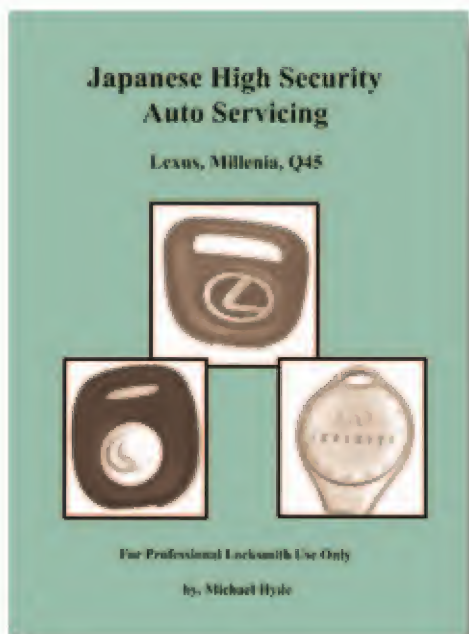
This book represents the best work of Automotive Locksmithing guru Michael Hyde, author of the famous AutoSmart.

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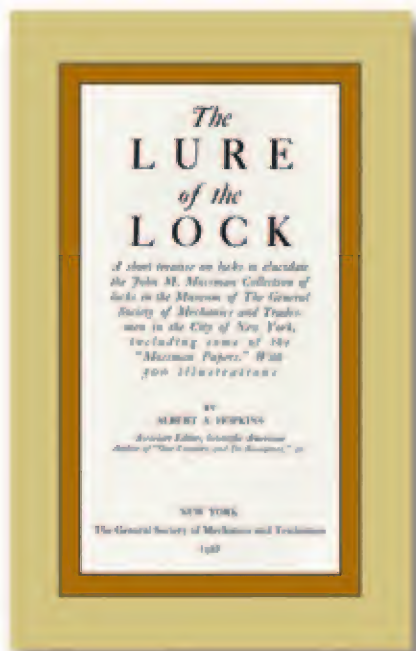


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New GM HUF Series H0001-H3988, Part 2

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3834 3342234444	3864 3322234422	3894 2432331122	3924 2433342332	3954 3311324422	3984 3322133312
3835 3333442324	3865 3342243332	3895 3344423223	3925 3333444234	3955 3311331222	3985 3322231212
3836 3332422442	3866 3324324422	3896 3332113342	3926 3342124332	3956 3311342422	3986 3322231322
3837 3131234332	3867 3324324442	3897 3312234212	3927 3313113424	3957 3311342442	3987 3322231342
3838 3332123132	3868 3331131134	3898 2432332312	3928 3334232344	3958 3312433242	3988 3322234312
3839 3343312424	3869 3331133422	3899 3332123422	3929 3321311322	3959 3311343342	
3840 3322134342	3870 2431324312	3900 3332123442	3930 3342124444	3960 3312234232	
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TNL



The Lure of the Lock

This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.

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#LURE

**Taking
Industry Products
for a**

TEST DRIVE!

Over the years there have been a number of tools developed to defeat steering wheel locks of the style that extend across the steering wheel. These are the most widely recognized and used steering wheel locks in the world. We should all be familiar with these two piece interlocking devices that harness the steering wheel. Many of the previously designed tools designed to defeat these locks were based on defeating the lock cylinder.

On the basic steering wheel locks, you may encounter a simple single or double-sided lock. However on the upper end wheel locking devices, higher security locking cylinders are being used to thwart even the seasoned locksmiths picking abilities. As a result, The Buster took a different approach to defeating these wheel locking devices. Rather than trying to defeat the lock, The Buster ignores the lock itself and opts instead to just snap the wheel locking bar in two.

OPERATION:

To use The Buster, simply attach the tool onto the steering wheel lock by placing the hook portion of the tool under the male interlocking slide of the wheel lock. Then position the bow base over the top positioning the "V" shaped support legs of the bow against the locking bar. Tighten the large wing nut until The Buster is snug as a bug. When satisfied that The Buster is in proper position, continue tightening the wing nut until the wheel lock finally breaks in two. The entire procedure should take less than a minute to accomplish.

When performing this task, it is highly recommended that you wear safety glasses. The Buster is actually

snapping the wheel locking bar and it is possible that in the process, a piece of metal could go flying towards your face. Always use caution.

CONSTRUCTION:

The Buster is 8-pounds of solid cast iron. It includes a large threaded rod with a hook, a custom base shaped as a bow, a bronze bushing and a wing nut. There is no doubt that it should withstand and defeat even the most difficult wheel locks. There is nothing lightweight about it.

PERFORMANCE RESULTS:

The Buster performed as expected... it snapped the wheel lock in no time at all. The Buster will even fit through most steering wheels to remove locks that are attached from the underside. Although The Buster is primarily designed to defeat steering wheel locks that extend across steering wheels, it has some other uses as well. Even though we did not try, according to the instructions included with The Buster, The Buster will even defeat some popular style "U" shaped bicycle locks as well. That's a little added bonus.

The Buster™



CONCLUSION:

The end result is The Buster lived up to its claims. It is a bit heavy and bulky, however, it works. Now what your customer is going to say when he sees his prized wheel lock shattered before his very eyes, will depend on the customer. The Buster is ideally suited for the repossession industry, where the goal is to get in and out as quickly as possible with positive results. Before utilizing this tool before a paying customer, I would highly recommend that you inform them of the procedure and the ultimate result. This is not to single the Buster out, because I would highly recommend informing a customer whenever any force tool and procedure is being performed. When presented properly it can eliminate any concerns and potential problems.

If you encounter as number of situations where a customer has lost their keys to their steering wheel lock, The Buster is a viable tool that will get the job done fast.

For more information circle 269 on Rapid Reply. 

IN SUMMARY:

The Buster is designed to remove steering wheel locks that extend across the wheel.

PRICE: \$149.95

COMMENTS: The Buster worked as anticipated and will even defeat some popular "U" style bicycle locks

TEST DRIVE RESULTS: If you encounter a number of steering wheel locks, The Buster is a viable tool that will get the job done fast.